

# **BROTHER GROUP GREEN PROCUREMENT STANDARD**

**(Ver. 9.2)**



**September 24, 2021**

**BROTHER INDUSTRIES, LTD.**

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## 1. Brother Group's Green Procurement

### 1.1 Purpose

The Brother Group strives to minimize environmental impact in every aspect of our operations in pursuit of sustainable development. We wish to work with suppliers to reduce environmental impact throughout the supply chain. As part of this, we practice green procurement. This means that we purchase goods that do not contain hazardous chemical substances specified by the Brother Group from suppliers who promote environmental conservation activities. The purpose of this standard is to communicate the requirements of the Brother Group to suppliers.

### 1.2 Scope

This standard applies to the following substances handled in the Brother Group: (Note 1)

- Parts, materials and sub-materials used for products designed, manufactured, and sold by the Brother Group;
- Parts, materials and sub-materials used for products designed and manufactured by the Brother Group for a third party;
- Products designed and manufactured by a third party for the Brother Group and sold under the Brother Group's trade mark;
- Products for sale that incorporate product(s) purchased from another company (or companies);
- Products purchased from another company to be sold "as is";

**Note 1)** The applicable contents may be changed only when an agreement is concluded between a supplier and the Brother Group.

### 1.3 Definitions

#### 1) Goods

*Goods* is a general term for parts, materials, sub-materials, products, packaging materials, and the like purchased by the Brother Group.

#### 2) Chemical products

*Chemical products* are chemical substances or mixtures.

#### 3) Articles

*Articles* are items for which the particular shape, appearance or design given during manufacturing is a major determinant of end use function, rather than the functions fulfilled by their chemical composition.

#### 4) Contain

*Contain* means that substances are added to, filled into, mixed into, or adhered to articles regardless of whether it is due to any intentional act or not.

#### 5) Concentration

*Concentration* refers to the amount of a chemical substance present in a given volume of a homogeneous material that constitutes a part or material.

#### 6) Concentration limit

*Concentration limit* refers to the maximum concentration of a chemical substance allowed in a homogeneous material that constitutes a part or material.

#### 7) Homogeneous material

*Homogeneous material* refers to a material that cannot be separated mechanically into more than one material of different properties. For example, in a steel product that has one layer of paint, the steel is a homogeneous material and the paint is a homogeneous material.

- 8) Impurity  
*An impurity* is a substance that is contained in a natural raw material and cannot be removed completely in the process of refinement into an industrial material, a substance generated in the process of synthesis that cannot be removed by technical means, or an outside substance that is mixed in unintentionally in the manufacturing or production processes.
- 9) Intentional use  
*Intentional use* means that substances are deliberately added to parts or materials, or an added material is used in order to add a certain performance, characteristics and functions, or to maintain processing conditions.
- 10) Green Procurement Management System  
*The Green Procurement Management System* is a system for investigating chemical substances in products. It is a feature of B'snet Portal, which is for sharing information between the Brother Group and suppliers.
- 11) CAS RN®  
CAS RN® is an abbreviation of the CAS Registry Number.  
The CAS Registry Number in this standard has not been verified by CAS and may be inaccurate.  
CAS Registry Numbers have not been verified by CAS and may be inaccurate.
- 12) New Investigation  
*New Investigation* is an investigation for new part.
- 13) Re-Investigation  
*Re-Investigation* is an investigation conducted after the version of the chemSHERPA tool is upgraded.

## 2. Request to Suppliers

- 1) Compliance with the Brother Group's Green Procurement Standard  
Suppliers are requested to understand the contents of the Brother Group's Green Procurement Standard, and to establish and maintain a system that ensures proper management of chemical substances in products.  
New suppliers who are starting business with the Brother Group are subject to an audit of their management system for chemical substances in products prior to doing business.
- 2) Submission of "Certificate Concerning Chemical Substances in Products"  
All suppliers with transactions at the time of the revision of the Brother Group Green Procurement Standard are requested to re-submit the "Certificate Concerning Chemical Substances in Products" as soon as the Brother Group Green Procurement Standard is revised.  
Suppliers who initiate new transactions with the Brother Group are requested to submit the "Certificate Concerning Chemical Substances in Products (CH01-1000)" before starting transactions.
- 3) Management of Chemical Substances in Products  
Suppliers are requested to manage chemical substances in products as stipulated in "4. Detailed List of Chemical Substances/Substance Groups."  
Investigate whether prohibited chemical substances are contained in any goods. If any such substance is detected, immediately avoid it, notify the Brother Group (contact office: factory you do business with), and take action to ensure that the substance does not exceed the content standard value.  
Regarding controlled chemical substances, report the content according to the communication standard of the composition information defined in the chemSHERPA usage rules.  
The content condition is basically understood by communication through the supply chain.

4) Entering Data into the Green Procurement System

Go to B'snet Portal > Environmental Information > Green Procurement Management System to enter investigation results for chemical substances in products.

Enter the results of the [new](#) investigation and [re-investigation](#) before delivering the goods.

Moreover, if you have at least two weeks before delivery of the goods, enter your investigation results into the Green Procurement Management System within two weeks after an investigation request from the Brother Group.

[If any change occurs in the composition information of chemSHERPA due to a change of material, etc., enter the investigation results of the chemical substances in the product of the changed goods in the Green Procurement Management System before the first delivery of the changed goods after the delivery of the previous part is discontinued.](#) Files created in the chemSHERPA tool can be imported.

Upload a CI file for chemical products and an AI file for articles to the B'snet Portal. Create the file according to chemSHERPA usage rules. When creating the file, chemical composition information is mandatory.

Refer to the following site concerning chemSHERPA.

<https://chemsherpa.net/chemSHERPA/>

5) Document control

Certificates, [chemSHERPA files](#), [investigation documents](#), and measurement data that your company has obtained internally or from upstream suppliers should be retained because we will request submission as supporting data for the investigation results registered in the Green Procurement System.

6) Audits

In order to confirm the management structure of chemical substances in products at suppliers, conduct periodic [on-site audits based on written prior notice and the agreement between suppliers and the Brother Group](#). During an audit, also confirm the "document control" [status](#) described in 5).

7) Brother Group X-ray fluorescence analysis and phthalate measurement results

The Brother Group periodically conducts X-ray fluorescence analysis and phthalate measurements. In the case the Brother Group determines necessary, such as if the measured value exceeds the content standard value or if the measured value is significantly different from the inclusion information contained in the Green Procurement System, the Brother group will contact the supplier for verification. When the content standard value is exceeded, we will ask suppliers to promptly investigate the cause and deliver goods with content below the content standard value.

8) Response to be taken if a non-conforming product is found

If it is determined that a product contains prohibited chemical substances in excess of their concentration limits, immediately notify the Brother Group (via the factory with which you deal).

Also immediately investigate the cause and notify of details such as measures to prevent reoccurrence.

9) Response to prohibition of containing red phosphorus

Red phosphorous is prohibited from being contained in components that fall under the following.

The Development Department of Brother Industries will contact suppliers of applicable parts separately.

[Target]

Parts in which the Development Department of Brother Industries contacts suppliers separately

[Content Standard Value]

Prohibited to contain

3. Management Criteria for Prohibited Chemical Substances

Management Criteria for prohibited chemical substances regulated by Brother Group are stipulated as follows.

Content Standard Value	Details
Prohibited from intentional use	May not be used intentionally. Communicate with suppliers through the supply chain to confirm that the substances are not being used intentionally.
Prohibited to contain	In addition to being prohibited from intentional use, unintentional use including in the form of contamination or transfer from other goods, impurities, or byproducts are also prohibited. Communicate with suppliers through the supply chain to confirm that the substances are not being used or contained. If it is found as a result of confirmation that the substances are not being used intentionally and if unintentional use has not been found over the entire supply chain, it may be determined that the substances are not included in products.
Prohibited from intentional use, additionally content standard values are specified	In addition to being prohibited from intentional use, concentration in excess of content standard values due to unintentional inclusion is prohibited. Communicate with suppliers through the entire supply chain to confirm that substances are not being used intentionally and the concentration of the substances contained due to unintentional use including in the form of contamination or transfer from other goods, impurities, or byproducts does not exceed the specified content standard values.
Only content standard values are specified	Intentional use and unintentional inclusion in excess of content standard values are prohibited. Communicate with suppliers through the supply chain to confirm that the concentration of the substances contained due to intentional use and those contained due to unintentional use including in the form of contamination or transfer from other goods, impurities, or byproducts do not exceed content standard values.

#### 4. Brother Group Chemical Substances in Products

##### 1) Prohibited Chemical Substances (Level A)

The Brother Group specifies the following chemical substances and chemical substance groups as “prohibited chemical substances (Level A).” Prohibited chemical substances (Level A) include “RoHS” and “prohibited substances excluding RoHS.” Their use is restricted globally, such as by legal restrictions.

##### 1-1) RoHS

Chemical substances/substance groups classified as “RoHS” are regulated to by the RoHS Directive (DIRECTIVE 2011/65/EU) of the EU.

##### <List of RoHS>

	Substances/Substance Group	Content Standard Value
0001	Lead/Lead Compounds	Less than or equal to 0.1% (1000ppm) per homogeneous material However, less than or equal to 0.03% (300 ppm) for cable cords coated with thermosetting or thermoplastic resin (Except exemption items) (Note 2), (Note 3), (Note 4), (Note 5)
0002	Cadmium/Cadmium Compounds	Less than or equal to 0.01% (100ppm) per homogeneous material (Except exemption items) (Note 3), (Note 4), (Note 5)
0003	Hexavalent Chromium /Hexavalent Chromium Compounds	Less than or equal to 0.1% (1000ppm) per homogeneous material. (Except exemption items) (Note 3), (Note 4), (Note 5)
0004	Mercury/Mercury Compounds	Less than or equal to 0.1% (1000ppm) per homogeneous material. (Except exemption items.) (Note 3), (Note 4), (Note 5)
0005	Polybrominated Biphenyls (PBBs)	Less than or equal to 0.1% (1000ppm) per homogeneous material, but prohibited from intentional use.
0006	Polybrominated Diphenylethers (PBDEs)	Less than or equal to 0.1% (1000ppm) per homogeneous material, but prohibited from intentional use.
0007	Bis (2-ethylhexyl)phthalate (DEHP) (Note 6)	Less than or equal to 0.1% (1000ppm) per homogeneous material (Note 7)
0008	Butyl benzyl phthalate (BBP)	Less than or equal to 0.1% (1000ppm) per homogeneous material (Note 7)
0009	Dibutyl phthalate (DBP)	Less than or equal to 0.1% (1000ppm) per homogeneous material (Note 7)
0010	Diisobutyl phthalate (DIBP)	Less than or equal to 0.1% (1000ppm) per homogeneous material (Note 7)

For more detailed information, please refer to “RoHS” in “5. Detailed list of chemical substances/substance groups.”

Note 2: Content standard value of lead/lead compounds

The content standard value for cable cords coated with thermosetting or thermoplastic resin shall be 300 ppm, in order to comply with Proposition 65.

However, if the Brother Group determines Proposition 65 does not apply to the corresponding parts, the content standard value shall be less than or equal to 0.1% (1000 ppm).

Note 3: Restrictions of packaging materials and packaging subsidiary materials

Lead, cadmium, hexavalent chromium, and mercury must not be intentionally added to parts, materials, and indirect materials used for packaging materials, which are shipped along with Brother Group's products and any incidental concentration must be less than or equal to 100ppm in sum.

Note 4: The value calculated by metallic conversion shall be applied to compound content.

Note 5: The "exemptions" are specified in Annex III of the EU RoHS Directive.

Refer to "6. EU RoHS Directive Exemptions" for the details of the exempted items.

The delivery deadline to the Brother Group for goods which used EU RoHS Directive Exemptions shall be one year before the deadline defined by the EU RoHS Directive.

However, when there is a request from a supplier, the delivery deadline may be defined separately.

Note 6: Another name: Dioctyl phthalate (DOP)

Note 7: Content standard value of DEHP, BBP, DBP, and DIBP

The content standard value of DEHP, BBP, DBP, and DIBP in the parts, materials and sub-materials used for packaging materials shipped with products of the Brother Group must be less than 0.1% (1,000 pm) in total.

Regarding products and parts not applicable to the EU RoHS Directive and parts used for other than the packaging materials mentioned above, the content standard value of DEHP, BBP, DBP, and DIBP in plasticized materials must be less than 0.1% (1,000 ppm) in total.

However, regarding products and parts only used for workers in the workplaces of industry and agriculture, or are only used outdoors, this notice is not applicable when plasticized materials do not contact human membrane or do not contact human skin for long hours, and the content standard value of the chemical substances of each DEHP, BBP, DBP, and DIBP is 0.1% (1,000 ppm) or less.



1-2) Prohibited substances excluding RoHS

Use of chemical substances/substance groups classified as “Prohibited substances excluding RoHS must comply with the laws and regulations of each country worldwide. (Excluding EU RoHS Directive)

<List of prohibited substances excluding RoHS>

	Substances/Substance Group	CAS RN®	Content Standard Value
0001	Ozone Depleting Substances (The controlled substances in Montreal Protocol)	—	Prohibited from intentional use
0002	Asbestos	—	Prohibited from intentional use
0003	Certain Azocolourants and Azodyes	—	(1) Azocolourants and Azodyes which may emit aromatic amines by reductive cleavage of one or more azo group: Regarding textile and leather products which may come into direct and prolonged contact with the human skin or oral cavity, it is limited to use less than or equal to 30mg/kg(30ppm) in the dyed part, but. prohibited from intentional use. (Note 8)  (2) Dye compounds included in the " List of Azocolourants": •Prohibited from intentional use as a substance. •Less than or equal to 0.1 % by Weight (1000ppm) per compound (Note 8)
0004	Polychlorinated Biphenyls (PCBs)	—	Prohibited to contain (Note 9)
0005	Polychlorinated Terphenyls (PCTs)	—	Less than or equal to 50mg/kg (50ppm) per homogeneous Material, but prohibited from intentional use
0006	Polychlorinated Naphthalenes— (Cl≥3)	—	Prohibited to contain
0007	Radioactive Substances	—	Prohibited from intentional use
0008	Certain Shortchain Chlorinated Paraffins	—	Less than or equal to 0.1% by weight (1000ppm) per homogeneous material, but prohibited to intentionally use
0009	Tri-substituted organostannic compounds such as Tributyltin (TBT) compounds and Triphenyltin (TPT) compounds	—	Less than or equal to 0.1% by weight (1000ppm) with tin conversion per homogeneous material, but prohibited from intentional use
0010	Tributyltin Oxide (TBTO)	56-35-9	Prohibited to contain (Note 9)
0011	PFOS (Perfluorooctane sulfonates) / i.e. C <sub>8</sub> F <sub>17</sub> SO <sub>2</sub> X [X=OH, Metal salt (O-M <sup>+</sup> ), halide, amide and other derivatives including polymers]	—	Prohibited to contain (Note 9)
0012	Dimethylfumarate (DMF)	624-49-7	Less than or equal to 0.1mg/kg (0.1ppm) in a part, but prohibited from intentional use.
0013	Phenol,2-(2H-benzotriazol-2-yl)-4,6- bis(1,1-dimethylethyl)	3846-71-7	Prohibited to contain (Note 9)

CAS Registry Numbers have not been verified by CAS and may be inaccurate

	Substances/Substance Group	CAS RN <sup>®</sup>	Content Standard Value
0014	Dibutyltin (DBT) compounds	—	Less than or equal to 0.1% by weight with tin conversion per homogeneous material or a compound
0015	Dioctyltin (DOT) compounds	—	Less than or equal to 0.1% by weight (1000ppm) with tin conversion per homogeneous material for target products (Note 10)
0016	Formaldehyde	50-00-0	<p>(1) Wooden products and Parts (plyboards, particle boards, etc.):</p> <p>It shall conform to the regulation value by utilizing the designated testing method in accordance with “U.S. California State ATCM (Airborne Toxic Control Measure to Reduce Formaldehyde Emissions from Composite Wood Products)” (Sections 93120-93120.12, title17, California Code of Regulations)</p> <p>(2) Textile products/parts (string , cloth, etc.) and products/parts which can be considered to come in contact with skin over a long time: Elution amount of formaldehyde shall be less than or equal to 16µg in a 1g of test piece by utilizing the testing method in accordance with the Appendix 1 of “Act on Control of Household Products Containing Harmful Substances” (September 26, 1974: Ordinance of the Ministry of Health, Labor and Welfare No.34)</p> <p>(3) Products/Parts which can be used as a container or a packing material of food products and also considered to directly come in contact with food products: The result must be negative by the testing method based on “Standards and criteria for food and food additives, etc” (Notification No.370 of the Ministry of Health, Labor and Welfare) under “Food Sanitation Law” (December 24, 1947 No.230)</p>
0017	Hexachlorobenzene (HCB)	118-74-1	Prohibited to contain (Note 9)
0018	Hexabromocyclododecane (HBCD)	(Note 11)	Prohibited to contain
0019	PFOA (Perfluorooctanoic acid), and its salts	-	Prohibited to contain (Note 9)
	PFOA related substances (Note 12)	-	Prohibited to contain (Note 9)

CAS Registry Numbers have not been verified by CAS and may be inaccurate

	Substances/Substance Group	CAS RN®	Content Standard Value
0020	Polycyclic-aromatic hydrocarbons (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	The limit for each PAH is no more than 1 mg/kg (1 ppm) for rubber and plastic components that come into direct and prolonged or short repetitive contact with the human skin or the oral cavity.
0021	<del>Polychlorinated Naphthalenes (Cl ≥ 2)</del>	-	<del>Prohibited to contain</del>
0022	<del>Benzenamine, N-phenyl, Reaction Products with Styrene and 2,4,4-Trimethylpentene (BNST)</del>	68921-45-9	<del>Prohibited to contain</del>
0023	Polychlorinated Naphthalenes (Cl ≥ 1)	-	Prohibited to contain
0024	Bisphenol A	80-05-7	Less than 0.02% (200ppm) for thermal paper
0025	Phenol, Isopropylated Phosphate (3:1) (PIP(3:1) )	68937-41-7	Prohibited to contain (Note13)
0026	Pentachlorothiophenol (PCTP)	133-49-3	(1) Substance; Prohibited to contain  (2) Mixtures; Less than or equal to 1%  (3) Articles; Less than or equal to 1% in a part

For details of the Chemical Substances/Chemical Substance Group, refer to "1-2) Prohibited substance excluding RoHS" of "5. Detailed List of Chemical Substances/Chemical Substance Groups."

Note 8: Restrictions on Certain Azocolourants and Azodyes

The substances listed below are classified as aromatic amines.

Chemical substance name	CAS RN®
Biphenyl-4-ylamine	92-67-1
Benzidine	92-87-5
4-Chloro-o-toluidine	95-69-2
2-Naphthylamine	91-59-8
o-Aminoazotoluene	97-56-3
5-Nitro-o-toluidine	99-55-8
4-Chloroaniline	106-47-8
4-Methoxy-m-phenylenediamine	615-05-4
4,4'-Methylenedianiline	101-77-9
3,3'-dichlorobenzidine	91-94-1
3,3'-Dimethoxybenzidine	119-90-4
3,3'-Dimethylbenzidine	119-93-7
4,4'-Methylenedi-o-toluidine	838-88-0
6-Methoxy-m-toluidine	120-71-8
4,4'-Methylene-bis-(2-chloroaniline)	101-14-4
4,4'-Oxydianiline	101-80-4
4,4'-Thiodianiline	139-65-1

CAS Registry Numbers have not been verified by CAS and may be inaccurate

Chemical substance name	CAS RN®
o-Toluidine	95-53-4
4-Methyl-m-phenylenediamine	95-80-7
2,4,5-Trimethylaniline	137-17-7
o-Anisidine	90-04-0
4-Amino azobenzene	60-09-3

List of Azocolourants

Chemical substance name	CAS RN®
A mixture of: disodium(6-(4-anisidino)-3-sulfonato-2-(3,5-dinitro -2-oxidophenylazo)-1-naphtholato)(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 RN®: 118685-33-9 C <sub>39</sub> H <sub>23</sub> ClCr-N <sub>7</sub> O <sub>12</sub> S <sub>2</sub> Na Component 2: C <sub>46</sub> H <sub>30</sub> CrN <sub>10</sub> -O <sub>20</sub> S <sub>2</sub> .3Na

Note 9: Management of By-product Class I Specified Chemical Substances

The use of the following Class I Specified Chemical Substances which are included in prohibited substances other than RoHS, and are regulated by the Chemical Substances Control Law of Japan are acceptable only when the substances comply with the Chemical Substances Control Law of Japan, and satisfy the following (1) and (2) as a use of those by-products Class I Specified Chemical Substances.

- 0017 Hexachlorobenzene (HCB)
- 0004 Polychlorinated Biphenyls (PCBs)
- 0010 Bis(tributyltin) = Oxide (TBTO)
- 0011 PFOS Perfluorooctane Sulfonic Acid and its salts
- 0013 Phenol, 2-(2H-1,2,3-benzotriazol-2-yl)-4, 6-bis(1, 1-dimethylethyl)
- 0019 [PFOA \(Perfluorooctanoic acid\) and its salts](#)  
[PFOA related substances \(scheduled\)](#)

However, if these by-product Class I Specified Chemical Substances are used, please notify the "content of the by-product Class I Specified Chemical Substances," and the "name of the by-product Class I Specified Chemical Substances" to the Brother Group.

- (1) The business operators voluntarily set the upper limit (voluntarily set concentration limit) of the content in the chemical substances of the Class I Specified Chemical Substances based on the principle of Best Available Technology /Techniques (BAT), and submits reports to the Ministry of Health, Labour and Welfare, Ministry of Economy, Trade and Industry, and the Ministry of the Environment (hereinafter the "three ministries") along with an explanation of the measures taken to reduce the content of the Class I Specified Chemical Substances, etc.
- (2) The business operators who voluntarily set the concentration limit and submitted reports to the three ministries, shall always confirm that the content of the Class I Specified Chemical Substances in the chemical substances manufactured on their own or imported does not exceed the voluntarily set concentration limit, and also make an effort to reduce the content. The reports on the management conditions of the voluntarily set concentration limit submitted to the three ministries has been updated according to a request from the three ministries, and reviewed as required according to the conditions.

Among the hexachlorobenzenes (HCBs), the use of by-product HCB that is slightly included in tetrachlorophthalic anhydride (TCPA), pigments or coloring agents (TCPA derived pigments) using TCPA as a raw material, and pigments or coloring agents (phthalocyanine pigments) manufactured with chlorinated pigment blue-15 are acceptable, only when item 2 of the "Management of Chemical Substances Containing a Class 1 Specified Chemical Substance (Notice)," [March 29, 2019](#), Ministry of Health, Labour and Welfare, Ministry of Economy, Trade and Industry and Ministry of the Environment is satisfied.

Among the polychlorinated biphenyls (PCBs), the use of by-product PCB that is slightly included in some of the organic pigments are acceptable only when item 3 of the "Management of Chemical Substances Containing a Class 1 Specified Chemical Substance (Notice)," [March 29, 2019](#), Ministry of Health, Labour and Welfare, Ministry of Economy, Trade and Industry and Ministry of the Environment is satisfied.

"Management of Chemical Substances Containing a Class 1 Specified Chemical Substance (Notice)," [March 29, 2019](#), Ministry of Health, Labour and Welfare, Ministry of Economy, Trade and Industry and Ministry of the Environment  
[https://www.meti.go.jp/policy/chemical\\_management/kasinhou/files/about/class1specified/190329bat\\_oshirase.pdf](https://www.meti.go.jp/policy/chemical_management/kasinhou/files/about/class1specified/190329bat_oshirase.pdf)

Note 10: Restrictions on Dioctyltin (DOT) compounds

Target products are textile articles intended to come into contact with skin, gloves, footwear, footwear products intended to come into contact with skin, wall papers, floor materials, childcare articles, and two-component room temperature vulcanization molding kits (RTV-2 molding kits).

Note 11: CAS RN® of Hexabromocyclododecane (HBCD) is as shown below.

25637-99-4, 3194-55-6, 4736-49-6, 65701-47-5, 134237-50-6, 134237-51-7,  
134237-52-8, 138257-17-7, 138257-18-8, 138257-19-9, 169102-57-2,  
678970-15-5, 678970-16-6, 678970-17-7

Note 12: PFOA Related Substances

- Substances with a linear or branched C7F15- perfluoroheptyl group directly coupled to other carbon atoms as one of the structural elements (including salts and polymers)
- Substances with a linear or branched C8F17- perfluorooctyl group as one of the structural elements (including salts and polymers)
- The following substances are excluded from the PFOA related substances.
  - C8F17-X where, X=F, Cl, Br
  - C8F17-C(=O) OH, C8F17-C(=O)O-X' or C8F17-CF2-X' where, X' is any group including salts

Note 13: Regulations for Phenol, Isopropylated Phosphate

- The content in lubricants and greases is exempted.
- The delivery of adhesives and sealants to the Brother Group are accepted until January 5, 2024.

2) Controlled chemical substances (Level B)

The Brother Group stipulates chemical substances to be "Controlled Chemical Substances (Level B)," excluding "Prohibited Chemical Substances (Level A)" from the chemSHERPA controlled substances.

Please see the website below for details of chemSHERPA controlled substances and the latest list of such substances.

<https://chemsherpa.net/>

5. Detailed List of Chemical Substances/Substance Groups

This list does not cover all chemical substances that comprise each prohibited chemical substance (Level A).

1) RoHS

■0001 Lead/Lead Compounds

Substance Name	CAS RN®	Metal Conversion Factor
Lead	7439-92-1	1.000
Lead(II) sulfate	7446-14-2	0.683
Lead(II) carbonate	598-63-0	0.775
Lead(II) chromate	7758-97-6	0.641
Lead chromate molybdate sulfate (C.I.Pigment Red 104)	12656-85-8	-
Lead hydroxidcarbonate	1319-46-6	0.801
Lead acetate	301-04-2	0.637
Lead (II) acetate, trihydrate	6080-56-4	0.546
Lead phosphate	7446-27-7	0.766
Lead selenide	12069-00-0	0.724
Lead (IV) oxide	1309-60-0	0.866
Lead (II,IV) oxide	1314-41-6	0.907
Lead (II) sulfide	1314-87-0	0.866
Lead (II) oxide	1317-36-8	0.928
Lead(II) carbonate basic	1319-46-6	0.801
Lead hydroxidcarbonate	1344-36-1	0.801
Lead(II) phosphate	7446-27-7	0.766
C.I.Pigment Yellow 34	1344-37-2	-
Lead(II) titanate	12060-00-3	0.686
Lead sulfate,sulphuric acid, lead salt	15739-80-7	-
Lead sulphate,tribasic	12202-17-4	0.850
Lead stearate	1072-35-1	0.268
Other lead compounds	-	-

■0002 Cadmium/Cadmium Compounds

Substance Name	CAS RN®	Metal Conversion Factor
Cadmium	7440-43-9	1.000
Cadmium oxide	1306-19-0	0.875
Cadmium sulfide	1306-23-6	0.778
Cadmium chloride	10108-64-2	0.613
Cadmium sulfate	10124-36-4	0.539
Other cadmium compounds	-	-

■0003 Hexavalent Chromium/Hexavalent Chromium Compounds

Substance Name	CAS RN®	Metal Conversion Factor
Chromium (VI) oxide	1333-82-0	0.520
Barium chromate	10294-40-3	0.205
Calcium chromate	13765-19-0	0.333
Chromium trioxide	1333-82-0	0.520
Lead (II) chromate	7758-97-6	0.161
Lead chromate molybdate sulfate (C.I.Pigment Red 104)	12656-85-8	-
C.I.Pigment Yellow 34	1344-37-2	-
Sodium chromate	7775-11-3	0.321
Sodium dichromate	10588-01-9	0.397
Strontium chromate	7789-06-2	0.255
Potassium dichromate	7778-50-9	0.353
Potassium chromate	7789-00-6	0.268
Zinc chromate	13530-65-9	0.287
Other hexavalent chromium compounds	-	-

■0004 Mercury/Mercury Compounds

Substance Name	CAS RN®	Metal Conversion Factor
Mercury	7439-97-6	1.000
Mercuric chloride	33631-63-9	-
Mercury (II) chloride	7487-94-7	0.739
Mercuric sulfate	7783-35-9	0.676
Mercuric nitrate	10045-94-0	0.618
Mercuric (II) oxide	21908-53-2	0.926
Mercuric sulfide	1344-48-5	0.862
Other mercury compounds	-	-

■0005 Polybrominated Biphenyls (PBBs)

Substance Name	CAS RN®
Polybrominated Biphenyls	59536-65-1
Dibromobiphenyl	92-86-4
2-Bromobiphenyl	2052-07-5
3-Bromobiphenyl	2113-57-7
4-Bromobiphenyl	92-66-0
Tribromobiphenyl	59080-34-1
Tetrabromobiphenyl	40088-45-7
Pentabromobiphenyl	56307-79-0
Hexabromobiphenyl	59080-40-9
Hexabromo-1,1'-biphenyl	36355-01-8
Firemaster FF-1	67774-32-7
Heptabromobiphenyl	35194-78-6
Octabromobiphenyl	61288-13-9
Nonabromo-1,1'-biphenyl	27753-52-2
Decabromobiphenyl	13654-09-6

CAS Registry Numbers have not been verified by CAS and may be inaccurate

■ **0006 Polybrominated Diphenylethers (PBDEs)**

Substance Name	CAS RN®
Bromobiphenyl ether	101-55-3
Dibromobiphenyl ether	2050-47-7
Tribromobiphenyl ether	49690-94-0
Tetrabromobiphenyl ether	40088-47-9
Pentabromobidiphenyl ether (note: Commercially available PeBDPO is a complex reaction mixture containing a variety of brominated diphenyloxides.	32534-81-9
Hexabromobiphenyl ether	36483-60-0
Heptabromobiphenyl ether	68928-80-3
Octabromobiphenyl ether	32536-52-0
Nonabromobiphenyl ether	63936-56-1
Decabromobiphenyl ether	1163-19-5

■ **0007 Bis (2-ethylhexyl)phthalate (DEHP)**

Substance Name	CAS RN®
Bis (2-ethylhexyl)phthalate (DEHP) Another name: Dioctyl phthalate (DOP)	117-81-7

■ **0008 Benzyl butyl phthalate (BBP)**

Substance Name	CAS RN®
Benzyl butyl phthalate (BBP)	85-68-7

■ **0009 Dibutyl phthalate (DBP)**

Substance Name	CAS RN®
Dibutyl phthalate (DBP)	84-74-2

■ **0010 Diisobutyl phthalate (DIBP)**

Substance Name	CAS RN®
Diisobutyl phthalate (DIBP)	84-69-5



2) Prohibited Substances excluding RoHS

■0001 Ozone Depleting Substances (The controlled substances in Montreal Protocol)

Montreal Protocol Annex A Group I		
Chemical formula	Substance Name	CAS RN®
CFCl <sub>3</sub>	Trichlorofluoromethane (CFC-11)	75-69-4
CF <sub>2</sub> Cl <sub>2</sub>	Dichlorodifluoromethane (CFC-12)	75-71-8
C <sub>2</sub> F <sub>3</sub> Cl <sub>3</sub>	Trichlorotrifluoroethane (CFC-113)	76-13-1
	1,1,2- Trichloro-1,2,2-trifluoroethane (CFC-113)	76-13-1
	1,1,1- Trichloro-2,2,2-trifluoroethane (CFC-113)	354-58-5
C <sub>2</sub> F <sub>4</sub> Cl <sub>2</sub>	Dichlorotetrafluoroethane (CFC-114)	76-14-2
C <sub>2</sub> F <sub>5</sub> Cl	Monochloropentafluoroethane (CFC-115)	76-15-3

Montreal Protocol Annex A Group II		
Chemical formula	Substance Name	CAS RN®
CF <sub>2</sub> BrCl	Bromochlorodifluoromethane (halon-1211)	353-59-3
CF <sub>3</sub> Br	Bromotrifluoromethane (halon-1301)	75-63-8
C <sub>2</sub> F <sub>4</sub> Br <sub>2</sub>	Dibromotetrafluoroethane (halon-2402)	124-73-2

Montreal Protocol Annex B Group I		
Chemical formula	Substance Name	CAS RN®
CF <sub>3</sub> Cl	Chlorotrifluoromethane (CFC-13)	75-72-9
C <sub>2</sub> F <sub>2</sub> Cl <sub>5</sub>	Pentachlorodifluoroethane (CFC-111)	354-56-3
C <sub>2</sub> F <sub>2</sub> Cl <sub>4</sub>	Tetrachlorodifluoroethane (CFC-112)	76-12-0
	1,1,2,2,-Tetrachloro-1,2-difluoroethane (CFC-112)	76-12-0
	1,1,1,2,-Tetrachloro-2,2-difluoroethane (CFC-112a)	76-11-9
C <sub>3</sub> FCl <sub>7</sub>	Hexachlorofluoropropane (CFC-211)	422-78-6
	1,1,1,2,2,3,3-Hexachloro-3-fluoropropane (CFC-211aa)	135401-87-5
	1,1,1,2,3,3,3-Hexachloro-2-fluoropropane (CFC-211ba)	422-78-6 422-81-1
C <sub>3</sub> F <sub>2</sub> Cl <sub>6</sub>	Hexachlorodifluoropropane (CFC-212)	3182-26-1
C <sub>3</sub> F <sub>3</sub> Cl <sub>5</sub>	Pentachlorotrifluoropropane (CFC-213)	2354-06-5
		134237-31-3
C <sub>3</sub> F <sub>4</sub> Cl <sub>4</sub>	Tetrachlorotetrafluoropropane (CFC-214)	29255-31-0
	1,2,2,3-Tetrachloro-1,1,3,3-tetrafluoropropane (CFC-214aa)	2268-46-4
	1,1,1,3-Tetrachloro-2,2,3,3-tetrafluoropropane (CFC-214cb)	-
C <sub>3</sub> F <sub>5</sub> Cl <sub>3</sub>	Trichloropentafluoropropane (CFC-215)	1599-41-3
	1,2,2-Trichloropentafluoropropane (CFC-215aa)	1599-41-3
	1,2,3-Trichloropentafluoropropane (CFC-215ba)	76-17-5
	1,1,2-Trichloropentafluoropropane (CFC-215bb)	-
	1,1,3-Trichloropentafluoropropane (CFC-215ca)	-
	1,1,1-Trichloropentafluoropropane (CFC-215cb)	4259-43-2
C <sub>3</sub> F <sub>6</sub> Cl <sub>2</sub>	Dichlorohexafluoropropane (CFC-216)	661-97-2
C <sub>3</sub> F <sub>7</sub> Cl	Monochloroheptafluoropropane (CFC-217)	422-86-6

Montreal Protocol Annex B Group II		
Chemical formula	Substance Name	CAS RN®
CCl <sub>4</sub>	Carbon Tetrachloride (Tetrachloromethane)	56-23-5

Montreal Protocol Annex B Group III		
Chemical formula	Substance Name	CAS RN®
C <sub>2</sub> H <sub>3</sub> Cl <sub>3</sub>	1,1,1-Trichloroethane (methyl chloroform) Except 1,1,2-trichloroethane	71-55-6

Montreal Protocol Annex C Group I		
Chemical formula	Substance Name	CAS RN®
CHFCl <sub>2</sub>	Dichlorofluoromethane (HCFC-21)	75-43-4
CHF <sub>2</sub> Cl	Chlorodifluoromethane (HCFC-22)	75-45-6
CH <sub>2</sub> FCl	Chlorofluoromethane (HCFC-31)	593-70-4
C <sub>2</sub> HFCl <sub>4</sub>	Tetrachlorofluoroethane (HCFC-121)	134237-32-4
	1,1,2,2-Tetrachloro-1-fluoroethane (HCFC-121)	354-14-3
	1,1,1,2-Tetrachloro-2-fluoroethane (HCFC-121a)	354-11-0
C <sub>2</sub> HF <sub>2</sub> Cl <sub>3</sub>	Trichlorodifluoroethane (HCFC-122)	41834-16-6
	1,2,2-Trichloro-1,1-difluoroethane (HCFC-122)	354-21-2
	1,1,2-Trichloro-1,2-difluoroethane (HCFC-122a)	354-15-4
	1,1,1-Trichloro-2,2-difluoroethane (HCFC-122b)	354-12-1
C <sub>2</sub> HF <sub>3</sub> Cl <sub>2</sub>	Dichlorotrifluoroethane (HCFC-123)	34077-87-7
	2,2-Dichloro-1,1,1-trifluoroethane (HCFC-123)	306-83-2
	1,2-Dichloro-1,1,2-trifluoroethane (HCFC-123a)	354-23-4
	Dichloro-1,1,2-trifluoroethane	90454-18-5
	1,1-dichloro-1,2,2-trifluoroethane (HCFC-123b)	812-04-4
C <sub>2</sub> HF <sub>4</sub> Cl	Chlorotetrafluoroethane (HCFC-124)	63938-10-3
	2-Chloro-1,1,1,2-tetrafluoroethane (HCFC-124)	2837-89-0
	1-Chloro-1,1,2,2-tetrafluoroethane (HCFC 124a)	354-25-6
C <sub>2</sub> H <sub>2</sub> FCl <sub>3</sub>	Trichlorofluoroethane (HCFC-131)	27154-33-2 (134237-34-6)
	1,1,2-Trichloro-2-fluoroethane (HCFC-131)	359-28-4
	1,1,2-Trichloro-1-fluoroethane (HCFC-131a)	811-95-0
	1,1,1-Trichloro-2-fluoroethane (HCFC-131b)	2366-36-1
C <sub>2</sub> H <sub>2</sub> F <sub>2</sub> Cl <sub>2</sub>	Dichlorodifluoroethane (HCFC-132)	25915-78-0
	1,2-Dichloro-1,2-difluoroethane (HCFC-132)	431-06-1
	1,1-Dichloro-2,2-difluoroethane (CFC-132a)	471-43-2
	1,2-Dichloro-1,1-difluoroethane (HCFC 132b)	1649-08-7
	1,1-Dichloro-1,2-difluoroethane (HCFC 132c)	1842-05-3

CAS Registry Numbers have not been verified by CAS and may be inaccurate



<b>Montreal Protocol Annex C Group I</b>		
Chemical formula	Substance Name	CAS RN®
C <sub>2</sub> H <sub>2</sub> F <sub>3</sub> Cl	Chlorotrifluoroethane (HCFC-133)	1330-45-6 431-07-2
	1-Chloro-1,2,2-trifluoroethane (HCFC-133)	1330-45-6
	2-Chloro-1,1,1-trifluoroethane (HCFC-133a)	75-88-7
	1-Chloro-1,1,2-trifluoroethane (HCFC-133b)	421-04-5
C <sub>2</sub> H <sub>3</sub> FCl <sub>2</sub>	Dichlorofluoroethane (HCFC-141)	1717-00-6 (25167-88-8)
	1,2-Dichloro-1-fluoroethane (HCFC-141)	430-57-9
	1,1-Dichloro-2-fluoroethane (HCFC-141a)	430-53-5
	1,1-Dichloro-1-fluoroethane (HCFC-141b)	1717-00-6
	Chlorodifluoroethane (HCFC-142)	25497-29-4
C <sub>2</sub> H <sub>3</sub> F <sub>2</sub> Cl	2-Chloro-1,1-difluoroethane (HCFC-142)	338-65-8
	1-Chloro-1,2-difluoroethane (HCFC-142a)	338-64-7
	2-Chloro-1,1-difluoroethane (HCFC-142b)	75-68-3
	Chlorofluoroethane (HCFC-151)	110587-14-9
C <sub>3</sub> HFCl <sub>5</sub>	1-Chloro-2-fluoroethane (HCFC-151)	762-50-5
	1-Chloro-1-fluoroethane (HCFC-151a)	1615-75-4
	Hexachlorofluoropropane (HCFC-221)	134237-35-7 29470-94-8 422-26-4
C <sub>3</sub> HF <sub>2</sub> Cl <sub>5</sub>	Pentachlorodifluoropropane (HCFC-222)	134237-36-8
	1,1,1,3,3-Pentachloro-2,2-difluoropropane (HCFC-222ca) 1,2,2,3,3-Pentachloro-1,1-difluoropropane (HCFC-222aa)	422-30-0
C <sub>3</sub> HF <sub>3</sub> Cl <sub>4</sub>	Tetrachlorotrifluoropropane (HCFC-223)	134237-37-9
	1,1,3,3-Tetrachloro-1,2,2-trifluoropropane (HCFC-223ca)	422-52-6
	1,1,1,3-Tetrachloro-2,2,3-trifluoropropane (HCFC-223cb)	422-50-4
C <sub>3</sub> HF <sub>4</sub> Cl <sub>3</sub>	Trichlorotetrafluoropropane (HCFC-224)	134237-38-0
	1,3,3-Trichloro-1,1,2,2-tetrafluoropropane (HCFC-224ca)	422-54-8
	1,1,3-Trichloro-1,2,2,3-tetrafluoropropane (HCFC-224cb)	422-53-7
	1,1,1-Trichloro-2,2,3,3-tetrafluoropropane (HCFC-224cc)	422-51-5
C <sub>3</sub> HF <sub>4</sub> Cl <sub>3</sub>	Trichlorotetrafluoropropane (HCFC-224)	134237-38-0
	1,3,3-Trichloro-1,1,2,2-tetrafluoropropane (HCFC-224ca)	422-54-8
	1,1,3-Trichloro-1,2,2,3-tetrafluoropropane (HCFC-224cb)	422-53-7
	1,1,1-Trichloro-2,2,3,3-tetrafluoropropane (HCFC-224cc)	422-51-7
C <sub>3</sub> HF <sub>5</sub> Cl <sub>2</sub>	Dichloropentafluoropropane (HCFC-225)	127564-92-5
	2,2-Dichloro-1,1,1,3,3-pentafluoropropane (HCFC-225aa)	128903-21-9
	2,3-Dichloro-1,1,1,2,3-pentafluoropropane (HCFC-225ba)	422-48-0
	1,2-Dichloro-1,1,2,3,3-pentafluoropropane (HCFC-225bb)	422-44-6
	3,3-Dichloro-1,1,1,2,2-pentafluoropropane (HCFC-225ca)	422-56-0
	1,3-Dichloro-1,1,2,2,3-pentafluoropropane (HCFC-225cb)	507-55-1
	1,1-Dichloro-1,2,2,3,3-pentafluoropropane (HCFC-225cc)	13474-88-9
	1,2-Dichloro-1,1,3,3,3-pentafluoropropane (HCFC-225da)	431-86-7
	1,3-Dichloro-1,1,2,3,3-pentafluoropropane (HCFC-225ea)	136013-79-1
	1,1-Dichloro-1,2,3,3,3-pentafluoropropane (HCFC-225eb)	111512-56-2
	Chlorohexafluoropropane (HCFC-226)	134308-72-8
C <sub>3</sub> H <sub>2</sub> F <sub>6</sub> Cl	2-Chloro-1,1,1,3,3,3-hexafluoropropane (HCFC-226da)	431-87-8
	Pentachlorofluoropropane (HCFC-231)	134190-48-0
C <sub>3</sub> H <sub>2</sub> F <sub>5</sub> Cl <sub>2</sub>	1,1,1,2,3-Pentachloro-2-fluoropropane (HCFC-231bb)	421-94-3
	Tetrachlorodifluoropropane (HCFC-232)	134237-39-1 460-89-9
C <sub>3</sub> H <sub>2</sub> F <sub>4</sub> Cl <sub>3</sub>	1,1,1,3-Tetrachloro-3,3-difluoropropane (HCFC-232fc)	460-89-9
	Trichlorotrifluoropropane (HCFC-233)	134237-40-4 7125-83-9
C <sub>3</sub> H <sub>2</sub> F <sub>4</sub> Cl <sub>2</sub>	1,1,1-Trichloro-3,3,3-trifluoropropane (HCFC-233fb)	7125-83-9
	Dichlorotetrafluoropropane (HCFC-234)	127564-83-4 425-94-5
C <sub>3</sub> H <sub>2</sub> F <sub>5</sub> Cl	1,2-Dichloro-1,2,3,3-tetrafluoropropane (HCFC-234 db)	425-94-5
	Chloropentafluoropropane (HCFC-235)	134237-41-5
C <sub>3</sub> H <sub>3</sub> F <sub>4</sub> Cl <sub>3</sub>	1-Chloro-1,1,3,3,3-pentafluoropropane (HCFC-235fa)	460-92-4
	Tetrachlorofluoropropane (HCFC-241)	134190-49-1 666-27-3
C <sub>3</sub> H <sub>3</sub> F <sub>2</sub> Cl <sub>3</sub>	1,1,2,3-Tetrachloro-1-fluoropropane (HCFC-241)	666-27-3
	Trichlorodifluoropropane (HCFC-242)	134237-42-6 460-63-9
C <sub>3</sub> H <sub>3</sub> F <sub>3</sub> Cl <sub>2</sub>	1,3,3-Trichloro-1,1-difluoropropane (HCFC-242)	460-63-9
	Dichlorotrifluoropropane (HCFC-243)	134237-43-7
	1,1-dichloro-1,2,2-trifluoropropane (HCFC-243cc)	7125-99-7
	2,3-dichloro-1,1,1-trifluoropropane (HCFC-243db) 3,3-Dichloro-1,1,1-trifluoropropane (HCFC-243fa)	338-75-0 460-69-5
C <sub>3</sub> H <sub>3</sub> F <sub>4</sub> Cl	Chlorotetrafluoropropane (HCFC-244)	134190-50-4
	3-Chloro-1,1,2,2-tetrafluoropropane (HCFC-244 ca)	679-85-6
	1-Chloro-1,1,2,2-tetrafluoropropane (HCFC-244 cc)	421-75-0
C <sub>3</sub> H <sub>4</sub> FCl <sub>3</sub>	Trichlorofluoropropane (HCFC-251)	134190-51-5
	1,1,3-Trichloro-1-fluoropropane (HCFC-251 fb)	818-99-5
	1,1,2-Trichloro-1-fluoropropane (HCFC-251 dc)	421-41-0
C <sub>3</sub> H <sub>4</sub> F <sub>2</sub> Cl <sub>2</sub>	Dichlorodifluoropropane (HCFC-252)	134190-52-6 819-00-1
	1,3-Dichloro-1,1-difluoropropane (HCFC-252 fb)	819-00-1
C <sub>3</sub> H <sub>4</sub> F <sub>3</sub> Cl	Chlorotrifluoropropane (HCFC-253)	134237-44-8
	3-Chloro-1,1,1-trifluoropropane (HCFC-253 fb)	460-35-5
C <sub>3</sub> H <sub>5</sub> FCl <sub>2</sub>	Dichlorofluoropropane (HCFC-261)	134237-45-9
	1,1-Dichloro-1-fluoropropane (HCFC-261 fc)	7799-56-6
	1,2-Dichloro-2-fluoropropane (HCFC-261 ba)	420-97-3
C <sub>3</sub> H <sub>5</sub> F <sub>2</sub> Cl	Chlorodifluoropropane (HCFC-262)	134190-53-7
	1-Chloro-2,2-difluoropropane (HCFC-262 ca)	420-99-5
	2-Chloro-1,3-difluoropropane (HCFC-262 da)	102738-79-4
	1-Chloro-1,1-difluoropropane (HCFC-262 fc)	421-02-3
C <sub>3</sub> H <sub>6</sub> FCl	Chlorofluoropropane (HCFC-271)	134190-54-8
	2-Chloro-2-fluoropropane (HCFC-271 ba)	420-44-0
	1-Chloro-1-fluoropropane (HCFC-271 fb)	430-55-7

<b>Montreal Protocol Annex C Group II</b>		
Chemical formula	Substance Name	CAS RN®
CHBr <sub>2</sub>	Dibromofluoromethane (HBFC-21 B2)	1868-53-7
CHF <sub>2</sub> Br	Bromodifluoromethane (HBFC-22 B1)	1511-62-2
CH <sub>2</sub> FBr	Bromodifluoromethane (HBFC-31 B1)	373-52-4
C <sub>2</sub> HFBr <sub>4</sub>	Tetrabromofluoroethane (HBFC-121 B4)	306-80-9
C <sub>2</sub> HF <sub>2</sub> Br <sub>3</sub>	Tribromodifluoroethane (HBFC-122 B3)	
C <sub>2</sub> HF <sub>3</sub> Br <sub>2</sub>	Dibromotrifluoroethane (HBFC-123 B2)	354-04-1

CAS Registry Numbers have not been verified by CAS and may be inaccurate

Montreal Protocol Annex C Group II		
Chemical formula	Substance Name	CAS RN®
C <sub>2</sub> H <sub>4</sub> Br	Bromotetrafluoroethane (HBFC-124 B1)	124-72-1
C <sub>2</sub> H <sub>2</sub> FB <sub>3</sub>	Tribromofluoroethane (HBFC-131 B3)	-
C <sub>2</sub> H <sub>2</sub> F <sub>2</sub> Br <sub>2</sub>	Dibromodifluoroethane (HBFC-132 B2)	75-82-1
C <sub>2</sub> H <sub>2</sub> F <sub>3</sub> Br	Bromotrifluoroethane (HBFC-133 B1)	421-06-7
C <sub>2</sub> H <sub>3</sub> FB <sub>2</sub>	Dibromofluoroethane (HBFC-141 B2)	358-97-4
C <sub>2</sub> H <sub>3</sub> F <sub>2</sub> Br	Bromodifluoroethane (HBFC-142 B1)	420-47-3
C <sub>2</sub> H <sub>4</sub> FBr	Bromofluoroethane (HBFC-151 B1)	762-49-2
C <sub>3</sub> HFBr <sub>5</sub>	Hexabromofluoropropane (HBFC-221 B6)	-
C <sub>3</sub> HF <sub>2</sub> Br <sub>5</sub>	Pentabromodifluoropropane (HBFC-222 B5)	-
C <sub>3</sub> HF <sub>3</sub> Br <sub>4</sub>	Tetrabromotrifluoropropane (HBFC-223 B4)	-
C <sub>3</sub> HF <sub>4</sub> Br <sub>3</sub>	Tribromotetrafluoropropane (HBFC-224 B3)	-
C <sub>3</sub> HF <sub>5</sub> Br <sub>2</sub>	Dibromopentafluoropropane (HBFC-225 B2)	431-78-7
C <sub>3</sub> HF <sub>6</sub> Br	Bromohexafluoropropane (HBFC-226 B1)	2252-78-0
C <sub>3</sub> H <sub>2</sub> FB <sub>5</sub>	Pentabromofluoropropane (HBFC-231 B5)	-
C <sub>3</sub> H <sub>2</sub> F <sub>2</sub> Br <sub>4</sub>	Tetrabromodifluoropropane (HBFC-232 B4)	-
C <sub>3</sub> H <sub>2</sub> F <sub>3</sub> Br <sub>3</sub>	Tribromotrifluoropropane (HBFC-233 B3)	-
C <sub>3</sub> H <sub>2</sub> F <sub>4</sub> Br <sub>2</sub>	Dibromotetrafluoropropane (HBFC-234 B2)	-
C <sub>3</sub> H <sub>2</sub> F <sub>5</sub> Br	Bromopentafluoropropane (HBFC-235 B1)	460-88-8
C <sub>3</sub> H <sub>3</sub> FB <sub>4</sub>	Tetrabromofluoropropane (HBFC-241 B4)	-
C <sub>3</sub> H <sub>3</sub> F <sub>2</sub> Br <sub>3</sub>	Tribromodifluoropropane (HBFC-242 B3)	70192-80-2
C <sub>3</sub> H <sub>3</sub> F <sub>3</sub> Br <sub>2</sub>	Dibromotrifluoropropane (HBFC-243 B2)	431-21-0
C <sub>3</sub> H <sub>3</sub> F <sub>4</sub> Br	Bromotetrafluoropropane (HBFC-244 B1)	679-84-5
C <sub>3</sub> H <sub>4</sub> FB <sub>3</sub>	Tribromofluoropropane (HBFC-251 B3)	75372-14-4
C <sub>3</sub> H <sub>4</sub> F <sub>2</sub> Br <sub>2</sub>	Dibromodifluoropropane (HBFC-252 B2)	460-25-3
C <sub>3</sub> H <sub>4</sub> F <sub>3</sub> Br	Bromotrifluoropropane (HBFC-253 B1)	421-46-5
C <sub>3</sub> H <sub>5</sub> FB <sub>2</sub>	Dibromofluoropropane (HBFC-261 B2)	51584-26-0
C <sub>3</sub> H <sub>5</sub> F <sub>2</sub> Br	Bromodifluoropropane (HBFC-262 B1)	-
C <sub>3</sub> H <sub>6</sub> FBr	Bromofluoropropane (HBFC-271 B1)	1871-72-3

Montreal Protocol Annex C Group III		
Chemical formula	Substance Name	CAS RN®
CH <sub>2</sub> BrCl	Bromochloromethane (halon-1011)	74-97-5

Montreal Protocol Annex E		
Chemical formula	Substance Name	CAS RN®
CH <sub>3</sub> Br	Methylbromide	74-83-9

■ 0002 Asbestos

Substance Name	CAS RN®
Asbestos	1332-21-4
Actinolite	77536-66-4
Amosite (Grunerite)	12172-73-5
Anthophyllite	77536-67-5
Chrysotile	12001-29-5
Crocidolite	12001-28-4
Tremolite	77536-68-6

■ 0003 Certain Azocolourants and Azodyes

See "1-2) Prohibited substances excluding RoHS" stated in the "4. Brother Group Chemical Substances in Products."

■ 0004 Polychlorinated Biphenyls (PCBs)

Substance Name	CAS RN®
Polychlorinated Biphenyls	1336-36-3
Aroclor	12767-79-2
Chlorodiphenyl (Aroclor 1260)	11096-82-5
Kanechlor 500	27323-18-8
Aroclor 1254	11097-69-1
Monomethyl-tetrachloro-diphenyl methane (Ugilec 141)	76253-60-6
Monomethyl-dichloro-diphenyl methane (Ugilec 121,Ugilec 21)	81161-70-8
Monomethyl-dibromo-diphenyl methane (DBBT)	99688-47-8

■ 0005 Polychlorinated Terphenyls (PCTs)

Substance Name	CAS RN®
Polychlorinated Terphenyl (PCT)	61788-33-8

■ 0007 Radioactive Substances

Substance Name	CAS RN®
Uranium	7440-61-1
Plutonium	7440-07-5
Radon	10043-92-2
Americium	7440-35-9
Thorium	7440-29-1
Cesium	7440-46-2
Strontium	7440-24-6
Other radioactive substances	-

■ 0008 Certain Shortchain Chlorinated Paraffins

Substance Name	CAS RN®
Chlorinated paraffins (C10-13)	85535-84-8
Other Short Chain Chlorinated Paraffins	-

CAS Registry Numbers have not been verified by CAS and may be inaccurate

■ **0009 Tri-substituted organostannic compounds such as Tributyltin (TBT) compounds and Triphenyltin (TPT) compounds**

<b>Tributyltin (TBT) compounds</b>		
Substance Name	CAS RN®	Metal Conversion Factor
Tributyltin methacrylate	2155-70-6	0.316
Bis(tributyltin) fumarate	6454-35-9	0.342
Tributyltin fluoride	1983-10-4	0.384
Bis(tributyltin) 2,3-dibromosuccinate	31732-71-5	0.278
Tributyltin acetate	56-36-0	0.340
Tributyltin laurate (HCB)	3090-36-6	0.243
Bis(tributyltin) phthalate	4782-29-0	0.319
Copolymer of alkyl acrylate, methyl methacrylate and tributyltin methacrylate(alkyl; C=8)	-	-
Tributyltin sulfamate	6517-25-5	0.307
Bis(tributyltin) maleate	14275-57-1	0.342
Tributyltin chloride	1461-22-9	0.365
Mixture of tributyltin cyclopentanecarboxylate and itsanalogs (Tributyltin naphthenate)	-	-
Mixture of tributyltin 1, 2, 3, 4, 4a, 4b, 5, 6, 10,10a-decahydro-7-isopropyl-1, 4a-dimethyl-1-phenanthlenecarboxylate and its analogs (Tributyltinrosin salt)	-	-
Other Tributyl Tins	-	-

<b>Triphenyltin (TPT) compounds</b>		
Substance Name	CAS RN®	Metal Conversion Factor
Triphenyltin N, N'-dimethyldithiocarbamate	1803-12-9	0.252
Triphenyltin fluoride	379-52-2	0.322
Triphenyltin acetate	900-95-8	0.290
Triphenyltin chloride	639-58-7	0.308
Triphenyltin hydroxide	76-87-9	0.323
Triphenyltin fatty acid salts (C=9-11)	47672-31-1	0.228
Triphenyltin chloroacetate	7094-94-2	0.268
Other Triphenyl Tins	-	-

<b>Tri-substituted organostannic compounds</b>		
Substance Name	CAS RN®	Metal Conversion Factor
Other Tri-substituted organostannic compounds	-	-

■ **0010 Bis(tributyltin)oxide (TBTO)**

Substance Name	CAS RN®	Metal Conversion Factor
Bis(tributyltin)oxide (TBTO)	56-35-9	0.389

■ **0011 PFOS (Perfluorooctane sulfonates)**

Substance Name	CAS RN®
Heptadecafluorooctanesulphonamide	754-91-6
Heptadecafluorooctane-1-sulphonic acid	1763-23-1
Potassiumheptadecafluorooctane-1-sulphonate	2795-39-3
Lithiumheptadecafluorooctanesulphonate	29457-72-5
Potassium decafluoro(pentafluoroethyl)cyclohexanesulphonate	67584-42-3
Potassium nonafluorobis(trifluoromethyl)cyclohexanesulphonate	68156-01-4

■ **0012 Dimethylfumarate (DMF)**

See "1-2) Prohibited substances excluding RoHS" stated in the "4. Brother Group Chemical Substances in Products."

■ **0013 Phenol, 2-(2H-benzotriazol-2-yl)-4, 6-bis(1, 1-dimethylethyl)**

See "1-2) Prohibited substances excluding RoHS" stated in the "4. Brother Group Chemical Substances in Products."

■ **0014 Dibutyltin (DBT) compounds**

Substance Name	CAS RN®	Metal Conversion Factor
Dibutyltin oxide	818-08-6	0.477
Dibutyltin diacetate	1067-33-0	0.338
Dibutyltin dilaurate	77-58-7	0.188
Dibutyltin maleate	78-04-6	0.342
Dibutyltin dichloride (DBTC)	683-18-1	0.391
Butyltin hydrogen borate	75113-37-0	0.405
Other Dibutyl tins	-	-

■ **0015 Dioctyltin (DOT) compounds**

Substance Name	CAS RN®	Metal Conversion Factor
Dioctyltin oxide	870-08-6	0.329
Dioctyltin dilaurates (DOTL)	3648-18-8	0.160
Dioctyltin maleate	16091-18-2	0.259
Dioctyltin dichloride	3542-36-7	0.285
Di(n-octyl)tinbis(isooctylthioglycolate)	26401-97-8	0.158
Other Diocty-	-	-

■ **0016 Formaldehyde**

See "1-2) Prohibited substances excluding RoHS" stated in the "4. Brother Group Chemical Substances in Products."

■ **0017 Hexachlorobenzene (HCB)**

See "1-2) Prohibited substances excluding RoHS" stated in the "4. Brother Group Chemical Substances in Products."

■ **0018 Hexabromocyclododecane (HBCD)**

See "1-2) Prohibited substances excluding RoHS" stated in the "4. Brother Group Chemical Substances in Products."

CAS Registry Numbers have not been verified by CAS and may be inaccurate

■0019 PFOA (Perfluorooctanoic acid), its salts and esters

Substance Name	CAS RN®
Pentadecafluorooctanoic acid	335-67-1
Ammonium pentadecafluorooctanoate	3825-26-1
Sodium pentadecafluorooctanoate	335-95-5
Potassium pentadecafluorooctanoate	2395-00-8
Silver pentadecafluorooctanoate	335-93-3
Pentadecafluorooctanoyl fluoride	335-66-0

■0020 Polycyclic-aromatic hydrocarbons (PAH)

See "1-2) Prohibited substances excluding RoHS" stated in the "4. Brother Group Chemical Substances in Products."

■0023 Polychlorinated Naphthalenes (Cl ≥1)

Substance Name	CAS RN®
Polychlorinated Naphthalenes	70776-03-3
1,2-Dichloronaphthalene	2050-69-3
1,3-Dichloronaphthalene	2198-75-6
1,4-Dichloronaphthalene	1825-31-6
1,5-Dichloronaphthalene	1825-30-5
1,6-Dichloronaphthalene	2050-72-8
1,7-Dichloronaphthalene	2050-73-9
1,8-Dichloronaphthalene	2050-74-0
2,3-Dichloronaphthalene	2050-75-1
2,6-Dichloronaphthalene	2065-70-5
2,7-Dichloronaphthalene	2198-77-8
Dichloronaphthalene	28699-88-9
Trichloronaphthalene	1321-65-9
Tetrachloronaphthalene	1335-88-2
Pentachloronaphthalene	1321-64-8
Octachloronaphthalene	2234-13-1
1-Chloronaphthalene	90-13-1
2-Chloronaphthalene	91-58-7
Other polychlorinated Naphthalenes	-

■0024 Bisphenol A

See "1-2) Prohibited substances excluding RoHS" stated in the "4. Brother Group Chemical Substances in Products."

■0025 Phenol, isopropylated phosphate (3:1) (PIP (3:1))

See "1-2) Prohibited substances excluding RoHS" stated in the "4. Brother Group Chemical Substances in Products."

■0026 Pentachlorothiophenol (PCTP)

See "1-2) Prohibited substances excluding RoHS" stated in the "4. Brother Group Chemical Substances in Products."

6. EU RoHS Directive Exemptions  
(Excluding Category 8, Category 9 and Category 11)

Please confirm the contents published by the EU authorities for the latest exemptions of Category 8, Category 9, and Category 11.

[https://ec.europa.eu/environment/topics/waste-and-recycling/rohs-directive/implementation-rohs-directive\\_en](https://ec.europa.eu/environment/topics/waste-and-recycling/rohs-directive/implementation-rohs-directive_en)

Applications for extending exemptions can be filed. The EU authorities examine the appropriateness of the application, and determine propriety of the extension.

Exemptions in which an extension was not accepted by the EU authorities can no longer be used 12 to 18 months after the determination date.

Regarding spare parts **only** for products in which marketing in the EU has been discontinued while an exemption remains effective, the exemption can continue to be used even after the exemption period used is terminated.

This is a list of the effective exemptions as of July 1, 2021, and the exemptions that will be effective in the future.

In addition, "Undecided" refers to exemptions in which the application for extending the legal deadline has already been filed, and the appropriateness of the applications are under deliberations by the EU authorities.

	Exemption	Legal Deadline	Delivery Deadline to the Brother Group
1(a)	Mercury in single capped (compact) fluorescent lamps not exceeding (per burner):For general lighting purposes < 30 W: 2.5 mg	Undecided	1 year before the legal expiration date
1(b)	Mercury in single capped (compact) fluorescent lamps not exceeding (per burner):For general lighting purposes ≥ 30 W and < 50 W; 3.5 mg	Undecided	1 year before the legal expiration date
1(c)	Mercury in single capped (compact) fluorescent lamps not exceeding (per burner): For general lighting purposes ≥ 50 W and < 150 W: 5 mg	Undecided	1 year before the legal expiration date
1(d)	Mercury in single capped (compact) fluorescent lamps not exceeding (per burner): For general lighting purposes ≥ 150 W: 15 mg	Undecided	1 year before the legal expiration date
1(e)	Mercury in single capped (compact) fluorescent lamps not exceeding (per burner):For general lighting purposes with circular or square structural shape and tube diameter ≤ 17 mm	Undecided	1 year before the legal expiration date
1(f)	Mercury in single capped (compact) fluorescent lamps not exceeding (per burner): For special purposes: 5 mg	Undecided	1 year before the legal expiration date
1(g)	Mercury in single capped (compact) fluorescent lamps not exceeding (per burner): For general lighting purposes < 30 W with a lifetime equal or above 20 000 h: 3,5 mg	Undecided	1 year before the legal expiration date
2(a)1	Mercury in double-capped linear fluorescent lamps for generation lighting purposes not exceeding (per lamp):Tri-band phosphor with normal lifetime and a tube diameter < 9 mm (e.g. T2): 4mg	Undecided	1 year before the legal expiration date
2(a)2	Mercury in double-capped linear fluorescent lamps for generation lighting purposes not exceeding (per lamp):Tri-band phosphor with normal lifetime and a tube diameter ≥ 9 mm and ≤ 17 mm (e.g. T5): 3mg	Undecided	1 year before the legal expiration date
2(a)3	Mercury in double-capped linear fluorescent lamps for generation lighting purposes not exceeding (per lamp):Tri-band phosphor with normal lifetime and a tube diameter > 17 mm and ≤ 28 mm (e.g. T8): 3.5mg	Undecided	1 year before the legal expiration date

	Exemption	Legal Deadline	Delivery Deadline to the Brother Group
2(a)4	Mercury in double-capped linear fluorescent lamps for general lighting purposes not exceeding (per lamp): Tri-band phosphor with normal lifetime and a tube diameter > 28 mm (e.g. T12): 3.5 mg	Undecided	1 year before the legal expiration date
2(a)5	Mercury in double-capped linear fluorescent lamps for general lighting purposes not exceeding (per lamp): Tri-band phosphor with long lifetime ( $\geq$ to 25,000 h): 5 mg	Undecided	1 year before the legal expiration date
2(b)3	Mercury in other fluorescent lamps not exceeding (per lamp): Non-linear tri-band phosphor lamps with tube diameter > 17 mm (e.g. T9): 15 mg	Undecided	1 year before the legal expiration date
2(b)4	Mercury in other fluorescent lamps not exceeding (per lamp): Lamps for other general lighting and special purposes (e.g. induction lamps): 15 mg	Undecided	1 year before the legal expiration date
3(a)	Mercury in cold cathode fluorescent lamps and external electrode fluorescent lamps (CCFL and EEFL) for special purposes not exceeding (per lamp): Short length ( $\leq$ 500 mm)	Undecided	1 year before the legal expiration date
3(b)	Mercury in cold cathode fluorescent lamps and external electrode fluorescent lamps (CCFL and EEFL) for special purposes not exceeding (per lamp): Medium length (> 500 mm and $\leq$ 1,500 mm)	Undecided	1 year before the legal expiration date
3(c)	Mercury in cold cathode fluorescent lamps and external electrode fluorescent lamps (CCFL and EEFL) for special purposes not exceeding (per lamp): Long length (> 1,500 mm)	Undecided	1 year before the legal expiration date
4(a)	Mercury in other low pressure discharge lamps (per lamp)	Undecided	1 year before the legal expiration date
4(b)-I	Mercury in High Pressure Sodium (vapour) lamps for general lighting purposes not exceeding (per burner) in lamps with improved colour rendering index Ra > 60: P $\leq$ 155 W	Undecided	1 year before the legal expiration date
4(b)-II	Mercury in High Pressure Sodium (vapour) lamps for general lighting purposes not exceeding (per burner) in lamps with improved colour rendering index Ra > 60: P < 155 W $\leq$ 405 W	Undecided	1 year before the legal expiration date
4(b)-III	Mercury in High Pressure Sodium (vapour) lamps for general lighting purposes not exceeding (per burner) in lamps with improved colour rendering index Ra > 60: P > 405 W	Undecided	1 year before the legal expiration date
4(c)-I	Mercury in other High Pressure Sodium (vapour) lamps for general lighting purposes not exceeding (per burner): P $\leq$ 155 W	Undecided	1 year before the legal expiration date
4(c)-II	Mercury in other High Pressure Sodium (vapour) lamps for general lighting purposes not exceeding (per burner): 155 W < P $\leq$ 405 W	Undecided	1 year before the legal expiration date
4(c)-III	Mercury in other High Pressure Sodium (vapour) lamps for general lighting purposes not exceeding (per burner): P > 405 W	Undecided	1 year before the legal expiration date
4(e)	Mercury in metal halide lamps (MH)	Undecided	1 year before the legal expiration date
4(f)	Mercury in other discharge lamps for special purposes not specifically mentioned in this Annex	Undecided	1 year before the legal expiration date
5(b)	Lead in glass of fluorescent tubes not exceeding 0,2 % by weight	Undecided	1 year before the legal expiration date
6(a)	Lead as an alloying element in steel for machining purposes and in galvanised steel containing up to 0,35 % lead by weight	2019/6/30	Delivery already prohibited
6(a)-I	Lead as an alloying element in steel for machining purposes containing up to 0.35% lead by weight and in batch hot dip galvanised steel components containing up to 0.2% lead by weight	Undecided	1 year before the legal expiration date

	Exemption	Legal Deadline	Delivery Deadline to the Brother Group
6(b)	Lead as an alloying element in aluminium containing up to 0,4 % lead by weight	2019/6/30	Delivery already prohibited
6(b)-I	Lead as an alloying element in aluminium containing up to 0.4 % lead by weight, provided it stems from lead-bearing aluminium scrap recycling	Undecided	1 year before the legal expiration date
6(b)-II	Lead as an alloying element in aluminium for machining purposes with a lead content up to 0.4 % by weight	Undecided	1 year before the legal expiration date
6(c)	Copper alloy containing up to 4 % lead by weight	Undecided	1 year before the legal expiration date
7(a)	Lead in high melting temperature type solders (i.e. lead- based alloys containing 85 % by weight or more lead)	Undecided	1 year before the legal expiration date
7(c)-I	Electrical and electronic components containing lead in a glass or ceramic other than dielectric ceramic in capacitors, e.g. piezoelectronic devices, or in a glass or ceramic matrix compound	Undecided	1 year before the legal expiration date
7(c)-II	Lead in dielectric ceramic in capacitors for a rated voltage of 125 V AC or 250 V DC or higher	Undecided	1 year before the legal expiration date
7(c)-IV	Lead in PZT based dielectric ceramic materials for capacitors which are part of integrated circuits or discrete semiconductors	2021/7/21	Delivery already prohibited
8(b)	Cadmium and its compounds in electrical contacts	2020/2/29	Delivery already prohibited
8(b)-I	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.	Undecided	1 year before the legal expiration date
9	Hexavalent chromium as an anticorrosion agent of the carbon steel cooling system in absorption refrigerators up to 0,75 % by weight in the cooling solution	2020/3/5	Delivery already prohibited
9(a)-I	Up to 0,75% hexavalent chromium by weight, used as an anticorrosion agent in the cooling solution of carbon steel cooling systems of absorption refrigerators (including minibars) designed to operate fully or partly with electrical heater, having an average utilised power input < 75 W at constant running conditions	2021/3/5	Delivery already prohibited
9(a)-II	Up to 0,75% hexavalent chromium by weight, used as an anticorrosion agent in the cooling solution of carbon steel cooling systems of absorption refrigerators: - designed to operate fully or partly with electrical heater, having an average utilised power input $\geq$ 75 W at constant running conditions; - Designed to fully operate with non-electrical heater.	Undecided	1 year before the legal expiration date
9(b)-I	Lead in bearing shells and bushes for refrigerant-containing hermetic scroll compressors with a stated electrical power input equal or below 9 kW for heating, ventilation, air conditioning and refrigeration (HVACR) applications	2019/7/21	Delivery already prohibited
13(a)	Lead in white glasses used for optical applications	Undecided	1 year before the legal expiration date



	Exemption	Legal Deadline	Delivery Deadline to the Brother Group
13(b)	Cadmium and lead in filter glasses and glasses used for reflectance standards	2018/7/5	Delivery already prohibited
13(b)-I	Lead in ion coloured optical filter glass types	Undecided	1 year before the legal expiration date
13(b)-II	Cadmium in striking optical filter glass types; excluding applications falling under point 39 of this Annex	Undecided	1 year before the legal expiration date
13(b)-III	Cadmium and lead in glazes used for reflectance standards	Undecided	1 year before the legal expiration date
15	Lead in solders to complete a viable electrical connection between semiconductor die and carrier within integrated circuit flip chip packages	2020/2/29	Delivery already prohibited
15(a)	Lead in solders to complete a viable electrical connection between the semiconductor die and carrier within integrated circuit flip chip packages where at least one of the following criteria applies: - a semiconductor technology node of 90 nm or larger; - a single die of 300 mm <sup>2</sup> or larger in any semiconductor technology node; - stacked die packages with die of 300 mm <sup>2</sup> or larger, or silicon interposers of 300 mm <sup>2</sup> or larger.	Undecided	1 year before the legal expiration date
18(b)	Lead as activator in the fluorescent powder (1 % lead by weight or less) of discharge lamps when used as sun tanning lamps containing phosphors such as BSP (BaSi <sub>2</sub> O <sub>5</sub> :Pb)	Undecided	1 year before the legal expiration date
18(b)-I	Lead as activator in the fluorescent powder (1 % lead by weight or less) of discharge lamps containing phosphors such as BSP (BaSi <sub>2</sub> O <sub>5</sub> :Pb) when used in medical phototherapy equipment	Undecided (Only applicable to Category 5 & Category 8)	1 year before the legal expiration date
21	Lead and cadmium in printing inks for the application of enamels on glasses, such as borosilicate and soda lime glasses	2020/2/29	Delivery already prohibited
21(a)	Cadmium when used in colour printed glass to provide filtering functions, used as a component in lighting applications installed in displays and control panels of EEE	2021/7/21	Delivery already prohibited
21(b)	Cadmium in printing inks for the application of enamels on glasses, such as borosilicate and soda lime glasses	2021/7/21	Delivery already prohibited
21(c)	Lead in printing inks for the application of enamels on other than borosilicate glasses	2021/7/21	Delivery already prohibited
24	Lead in solders for the soldering to machined through hole discoidal and planar array ceramic multilayer capacitors	Undecided	1 year before the legal expiration date
29	Lead bound in crystal glass as defined in Annex I (Categories 1, 2, 3 and 4) of Council Directive 69/493/EEC	Undecided	1 year before the legal expiration date
32	Lead oxide in seal frit used for making window assemblies for Argon and Krypton laser tubes	Undecided	1 year before the legal expiration date
34	Lead in cermet-based trimmer potentiometer elements	Undecided	1 year before the legal expiration date
37	Lead in the plating layer of high voltage diodes on the basis of a zinc borate glass body	2021/7/21	Delivery already prohibited
39(a)	Cadmium selenide in downshifting cadmium-based semiconductor nanocrystal quantum dots for use in display lighting applications (< 0,2 μg Cd per mm <sup>2</sup> of display screen area)	Undecided	1 year before the legal expiration date



	Exemption	Legal Deadline	Delivery Deadline to the Brother Group
41	Lead in solders and termination finishes of electrical and electronic components and finishes of printed circuit boards used in ignition modules and other electrical and electronic engine control systems, which for technical reasons must be mounted directly on or in the crankcase or cylinder of hand-held combustion engines (classes SH:1, SH:2, SH:3 of Directive 97/68/EC of the European Parliament and of the Council)	2022/3/31	Delivery already prohibited
42	Lead in bearings and bushes of diesel or gaseous fuel powered internal combustion engines applied in non-road professional use equipment: – with engine total displacement $\geq$ 15 litres; or – with engine total displacement < 15 litres and the engine is designed to operate in applications where the time between signal to start and full load is required to be less than 10 seconds; or regular maintenance is typically performed in a harsh and dirty outdoor environment, such as mining, construction, and agriculture applications.	N/A (Only applicable to Category 11)	N/A
43	Bis(2-ethylhexyl) phthalate in rubber components in engine systems, designed for use in equipment that is not intended solely for consumer use and provided that no plasticised material comes into contact with human mucous membranes or into prolonged contact with human skin and the concentration value of bis(2-ethylhexyl) phthalate does not exceed: (a) 30 % by weight of the rubber for (i) gasket coatings; (ii) solid-rubber gaskets; or (iii) rubber components included in assemblies of at least three components using electrical, mechanical or hydraulic energy to do work, and attached to the engine. (b) 10 % by weight of the rubber for rubber-containing components not referred to in point (a). For the purposes of this entry, “prolonged contact with human skin” means continuous contact of more than 10 minutes duration or intermittent contact over a period of 30 minutes, per day.	N/A (Only applicable to Category 11)	N/A
44	Lead in solder of sensors, actuators, and engine control units of combustion engines within the scope of Regulation (EU) 2016/1628 of the European Parliament and of the Council (*), installed in equipment used at fixed positions while in operation which is designed for professionals, but also used by non-professional users	N/A (Only applicable to Category 11)	N/A

(Reference information) Category of the electrical and electronic equipment applicable for the EU RoHS Directive (As of [July 1, 2021](#))

- Category 1. Large household appliances
- Category 2. Small household appliances
- Category 3. T and telecommunications equipment
- Category 4. Consumer equipment
- Category 5. Lighting equipment
- Category 6. Electrical and electronic tools
- Category 7. Toys, leisure and sports equipment
- Category 8. Medical devices
- Category 9. Monitoring and control instruments including industrial monitoring and control instruments
- Category 10. Automatic dispensers
- Category 11. Other EEE not covered by any of the categories above

## Revision History

Version 1.0	April 1, 2002	First version issued
Version 2.0	March 1, 2005	Revised to add Brother-specified substances including RoHS 6 substances
Version 3.0	September 12, 2006	A total of 19 types of prohibited substances including the RoHS 6 Substances List of controlled chemical substances was updated to a total of 24 substances including RoHS 6 substances and JIG18 substances.
Version 4.0	April 1, 2009	Revised to add controlled chemical substances (1st SVHC list – V001)
Version 5.0	March 1, 2010	Revised to add controlled chemical substances (2nd SVHC list – V002)
Version 6.0	September 21, 2010	Major revision made to add controlled chemical substances (3rd SVHC list – V003) and requirement for mass information
Version 6.1	February 1, 2011	Revised to add controlled chemical substances (4th SVHC list – V004)
Version 6.2	June 27, 2011	Revised to add controlled chemical substances (5th SVHC list – V005)
Version 6.3	January 12, 2012	Revised to add controlled chemical substances (6th SVHC list – V006)
Version 7.0	May 7, 2012	Revised to make categorical changes to controlled chemical substances specified by the Brother Group and the content value standard for prohibited chemical substances (Level A)
Version 7.1	June 27, 2012	Revised to add controlled chemical substances (7th SVHC list – V007)
Version 7.2	January 11, 2013	Revisions due to the following: <ul style="list-style-type: none"> <li>• Added a request for suppliers to take proactive actions to conserve biodiversity</li> <li>• Added controlled chemical substances (8th SVHC list - V008 and Perchlorate Compounds)</li> <li>• Made amendments to controlled chemical substances (Aluminosilicate Refractory Ceramic Fibres (2nd SVHC list) and Zirconia Aluminosilicate Refractory Ceramic Fibres (2nd SVHC list)).</li> </ul>
Version 7.3	June 27, 2013	Revisions due to the following: <ul style="list-style-type: none"> <li>• Added controlled chemical substances (9th SVHC list – V009)</li> <li>• Exemptions in the annexes to the RoHS directive were added to chapter 8.</li> <li>• Added notes on exemptions which are soon to expire or have already expired</li> </ul>
Version 7.4	January 9, 2014	Revisions due to the following: <ul style="list-style-type: none"> <li>• Revised and deleted some of the definitions of terms</li> <li>• Added a request for developing a greenhouse gas emissions reduction plan</li> <li>• Added controlled chemical substances [HBCD (prohibited substances excluding RoHS) and 10th SVHC list]</li> <li>• Modified notes to prohibited substances excluding RoHS (restrictions on DBT and HCB)</li> <li>• Added descriptions about the interpretation of the content standard values for prohibited substances excluding RoHS</li> <li>• Added descriptions about how to submit information via the Green Procurement Management System</li> <li>• Added notes on exemptions which are soon to expire or have already expired</li> <li>• Made other modifications to the text</li> <li>• Corrected errors</li> </ul>
Version 7.5	July 1, 2014	Revisions due to the following: <ul style="list-style-type: none"> <li>• Added commitment to conserving biodiversity to the Action Guidelines shown under the Brother Group's Attitude toward Environmental Conservation</li> <li>• Added controlled chemical substances [PFOA, its salts and esters (prohibited substances excluding RoHS) and 11th SVHC list]</li> <li>• Added new exemptions listed in the RoHS Directive Annex and revised notes on exemptions which have already expired</li> <li>• Made other modifications to the text</li> </ul>
Version 7.6	January 6, 2015	Revised to add controlled chemical substances (12th SVHC list – V012)
Version 7.7	July 1, 2015	Revisions due to the following: <ul style="list-style-type: none"> <li>• Made modifications and additions regarding responding to the needs of the Brother Group's customers</li> <li>• Added controlled chemical substances [Polycyclic-aromatic hydrocarbons (prohibited substances excluding RoHS) and 13th SVHC list]</li> <li>• Modified notes to prohibited substances excluding RoHS (restrictions on PFOA, its salts and esters)</li> </ul>

Version 7.8	January 6, 2016	<ul style="list-style-type: none"> <li>• Added notes on exemptions which are soon to expire or have already expired</li> </ul> <p>Revisions due to the following:</p> <ul style="list-style-type: none"> <li>• Advance notice for addition to controlled chemical substances (RoHS).</li> <li>• Added controlled chemical substances (14th SVHC list)</li> <li>• Added notes on exemptions which are soon to expire for the RoHS Directive Annex (Exemptions).</li> <li>• Corrected the CAS RN® errors in “7. Detailed List of Chemical Substances/Substance Groups.”</li> </ul>
Version 8.0	July 1, 2016	<p>Revisions due to the following:</p> <ul style="list-style-type: none"> <li>• Added controlled chemical substances [Polychlorinated Naphthalenes (Cl <math>\geq 2</math>) (prohibited substances excluding RoHS) and 15th SVHC list]</li> <li>• Added the purpose of Brother Group Green Procurement</li> <li>• Made modifications to the Request to Suppliers</li> <li>• Made modifications to the text (such as consistently using the terms restrict and goods)</li> </ul>
Version 8.1	January 20, 2017	<p>Revisions due to the following:</p> <ul style="list-style-type: none"> <li>• Added controlled chemical substances [Benzenamine, N-phenyl-, Reaction Products with Styrene and 2,4,4-Trimethylpentene (BNST) (prohibited substances excluding RoHS) and 16th SVHC list]</li> <li>• Added notes on exemptions which are soon to expire or have already expired</li> <li>• Made other modifications to the text</li> </ul>
Version 8.2	July 11, 2017	<p>Revisions due to the following:</p> <ul style="list-style-type: none"> <li>• Added controlled chemical substances (RoHS)</li> <li>• Added controlled chemical substances (17th SVHC list – V017)</li> <li>• Added Request to Suppliers items (EPEAT response, red phosphorus response)</li> <li>• Notification of plan to modify Green Procurement Management System</li> </ul>
Version 9.0	January 17, 2018	<p>Revisions due to the following:</p> <ul style="list-style-type: none"> <li>• Made changes due to the introduction of chemSHERPA <ul style="list-style-type: none"> <li>- Added controlled chemical substances (Polychlorinated Naphthalenes (Cl <math>\geq 1</math>)) (prohibited substances excluding RoHS)</li> <li>- Made changes to the content standard value for controlled chemical substances (Lead/Lead Compounds (RoHS))</li> <li>- Made changes to controlled chemical substances (level B)</li> <li>- Added to Entering Data into the Green Procurement System</li> <li>- Made modifications to Detailed List of Chemical Substances/Substance Groups</li> </ul> </li> <li>• Revised Request to Suppliers items</li> <li>• Deletion of the diagram of Flow of Brother Group Operations for Management of Chemical Substances in Products</li> </ul>
Version 9.1	March 07, 2019	<p>Revisions due to the following:</p> <ul style="list-style-type: none"> <li>• Changed the content standard value of the controlled chemical substances <ul style="list-style-type: none"> <li>- RoHS; DEHP、BBP、DBP and DIBP</li> <li>- Prohibited substances excluding RoHS: PFOA and its salts, PFOA related substances</li> </ul> </li> <li>• Added controlled chemical substances <ul style="list-style-type: none"> <li>- Bisphenol A</li> </ul> </li> <li>• Deleted controlled chemical substances <ul style="list-style-type: none"> <li>- Prohibited substances excluding RoHS; BNST</li> </ul> </li> <li>• Discontinuation for Applications of EU RoHS Directive Exemptions (6(a)-I, 6(b)-I, 6(b)-II and 6(c))</li> <li>• Corrected the notes concerning the Management of By-product Class I Specified Chemical Substances</li> <li>• Revised EU RoHS Directive Exemptions</li> <li>• Corrected the request items to suppliers (Handling of red phosphorus, measures for environmental conservation activities)</li> <li>• Made other modifications to the text</li> </ul>
Version 9.2	September 24, 2021	<p>Revisions due to the following:</p> <ul style="list-style-type: none"> <li>• Updated the point of view of the environmental conservation of the Brother Group</li> </ul>

- Added a note to the scope of the Brother Group Green Procurement
- Added definitions of terms
- Corrected items in the Request to Suppliers
- Clarified the delivery prohibited period of goods which use EU RoHS Directive exemptions
- Changed the content standard value of declarable substances
  - Prohibited substances excluding RoHS: PFOA and its salts, PFOA related substances
- Added declarable substances
  - Phenol, isopropylated phosphate, pentachlorothiophenol (PCTP)
- Added and corrected the detailed list of Chemical Substances/Chemical Substance Group
- Revised the EU RoHS Directive Exemption items