

# Chemical Substances Management Guidelines

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## Introduction

This Chemical Substances Management Guidelines (hereinafter; Guideline) is summarized to make sure the acceptable threshold level and the extension period to the substances of being used and delivered in the products of Adamant Namiki Precision Jewel Co., Ltd./ Akita Adamant Co., Ltd. (hereinafter; Adamant Namiki), and we commit implementing the control chemical substances firmly.

As Adamant Namiki policy, basically we don't purchase those parts, materials, etc. as prohibited substances for use being defined in this Guideline.

Please understand our purpose of this Guideline as well as the Green Procurement Guideline shown in our homepage, and we look forward to your cooperation to our environmental protection activity.

### 1. Scope

This Guideline is applied to all the products, the sub-materials and the packaging materials which Adamant Namiki purchase, including outsourcing designing and manufacturing parts, materials, etc.

< Subjected parts, materials, etc.>

- Parts (Electric parts, Mechanical parts, PCB, Packaging materials, Low materials, etc. )
- Work in process (Module and Assembly parts, etc. )
- Screws
- Constituent material of sub-material used in the products (Adhesive tapes, Soldering materials, Adhesive agent, etc.)

### 2. Application and exception

- (1) This Guideline has been established based on major laws and regulations but all is not concluded. Then we may apply to relating domestic and international laws and regulations and other necessary important matter of the industry guideline, etc. when we purchase parts, materials, etc.

(2) Basically it is the rule to follow this Guideline, however, depending on some unavoidable reasons from a supplier, Adamant Namiki business unit may be acceptable that supplier's criteria.

(3) Followings are free from this Guideline application.

-The environmental impact substances using for research and development purpose.  
However, this Guideline is applied when they turned to be used in products.

### 3. Terms and definitions

Terms and definitions are defined in this Guideline.

(1) Parts, materials, etc. consisting the products

Are Materials, Parts, Sub-materials, Electronics parts, Cutting processing parts, Resin parts, Press parts, Jointing materials, Solders, Glasses, Optical fibers, Wires, and Other parts, materials, sub-materials, service parts, packaging materials, etc. of using into Adamant Namiki manufacturing products

(2) Contain

Whatever it is intentional or unintentional, it means such situation that something substances are added, mixed and adhered to the parts, materials, etc. consisting the products. Impurity is including also.

(3) Impurity

Substances contained in natural materials and cannot be completely removed through refinement as industrial materials, or cannot be technically removed occurred through residues of synthesis reaction.

(4) Intentional addition (use)

Prefer to the continuous use (addition) of a chemical substance in order to give a certain characteristics, appearance and quality to the process of manufacturing the products;  
Includes where these substances are added or used.

The value is designated as "acceptable threshold level", and when containing for the purpose of keeping and improving the function, appearance and quality, it must not exceed its density level.

Please disclose its content details of Intentional addition (use) on “Controlled substance”

(5) RoHS Directive

Environmental impact substances, chemical substance regulation of the EU (Since 27/JAN/2003), had been defined that 6 banning substances should not to be included and used in the products, and this time, the revised RoHS (2011/65/EU) starts being effective with Phthalic-based 4 substances on the date of 4/JUN/2015 as Directive (EU/2015/863), and the banned substances come to 10 in total.

(6) REACH or Registration, Evaluation, Authorization and Restriction of Chemicals

Chemical substance regulation of the EU (18<sup>th</sup> December, 2006 in force).

Comprehensive management system of chemical substance to register, assess, permit, restrict and control the chemical substance used in the formed and mixed parts, materials, etc. appropriately. Information of the environmental impact substances is disclosed, communicated and shared in the supply chain.

(7) SVHC or Substances of Very High Concern

Those substances which make very high anxiety against person's health and environment such as carcinogenic, toxic substance, persistent, etc.

(8) Chemical substance

The substance made the compound which exists in the substance or nature which consists of element simple substances, or by manufacturing process.

Example: The controlled substance by the CAS number or EC number

(9) Preparation

Preparation is with which two or more chemical substances were mixed intentionally.

(10) Forming products

Items of specific shape, appearance or design created in final use rather than functions provided by its chemical composition.

(11) Exemption

Substances which are excluded by laws and regulations because there is no substitution (Substances, materials and technical matter) and no other use and component presently.

4. Control of environmental impact substances

The substances using to the materials, the parts, etc. which constitute the products are categorized into "Prohibited substances" and "Controlled substances".

However, there is possibility that "Prohibited substances" and "Controlled substances" may be changed depending on future laws and regulations or social situation.

Since all the substance name is not covered, please refer the following notes.

(Notes)

Adamant Namiki's "Prohibited substances" and "Controlled substances" are conform to the followings: Annex-A and Annex-B of "Joint Industry Guideline (JIG) for disclosure including chemical substances information regarding Electric/Electronics device products" and also "JAMP Declarable Substances Reference List" issued by Joint Article Management Promotion-consortium.

REACH includes Substances of Very High Concern (hereinafter; SVHC), and SVHC are often revised, so please refer the following information

- Home page of "Ministry of the Environment"  
[http://www.chemical-net.info/regu\\_eu.html#A8](http://www.chemical-net.info/regu_eu.html#A8)
- "Business assist site for small and medium-sized companies J-Net21"  
<http://j-net21.smrj.go.jp/index.html>
- "Article Management Promotion Consortium"  
<http://www.jamp-info.com/>

Also, we implement to follow the following major customer's environmental impact substance criteria.

- 1) Sony Corporation : Management regulations for the environment related substances to be controlled which are included in parts and materials
- 2) Fujitsu Limited : Fujitsu Group Green Procurement Direction, etc.
- 3) Sumitomo Electric Industries Ltd.: SEI Guidelines for Green Quality Purchases
- 4) Cannon Inc : Green Procurement Direction
- 5) Fujifilm Corporation : Fujifilm Green Procurement Direction

(1) "Prohibited substance"

The chemical substances which are regulated by overseas and domestic typical laws and which are prohibited to use by Adamant Namiki.

Regarding these substances, they are required to no intentional use in the product, sub-materials, the packaging materials, etc., of which Adamant Namiki purchases. Also, it is needed that the impurity content value is less than the regulatory value shown below.

(Submission of chemical analysis data, contents information and safety data such as SDS are needed.)

In case that it exceeded the limited value or is considered any possibility of intentional use, please clarify and disclose the reasons of intentional use or the contents percentage.

Acceptable threshold levels of the parts, materials, etc. depends on each the material.

## (2) “Controlled substances”

The one should be reduced as much as possible from the material, the parts, etc. which constitute Adamant Namiki products, and the one should be grabbed and controlled appropriately those contents percentage, areas and intentional use reasons (i.e. it is needed for characteristic stability and there is no substitution technically at present.)

## (3) “Prohibition of use of the recycling resin mold materials”

Recycling use of resin mold materials is prohibited.

However, if the value of control subject substance content level was lower than the acceptable threshold level defined by this Guideline, it is acceptable.

In this case, please submit data which Adamant Namiki requests (Example: Chemical analysis data, Product property evaluation report, etc.)

For the details, please contact our purchasing section in charge.

## (4) “Preferential measures”

If it was requested to use prohibited substances because there is no possibility to use any substitute, etc. please contact our purchasing section in charge.

Judgement of license to use shall be done that the substance is free from any laws and regulations.

(5) “Laws and regulations of the environmental impact substances” (Reference)

Substances	Major laws and regulations
Cadmium and its compounds	EU RoHS Directive
	EU REACH Regulation Annex XVII
	Resources Effective Utilization Promotion Act
Lead and its compounds	EU RoHS Directive
	EU REACH Regulation Annex XII
	Resources Effective Utilization Promotion Act
	Proposition 65 of California Law
Mercury and its compounds	EU RoHS Directive
	EU REACH Regulation Annex XVII
	Resources Effective Utilization Promotion Act
Hexavalent chromium compounds	EU RoHS Directive
	EU REACH Regulation Annex XVII
	Resources Effective Utilization Promotion Act
PBBs	The Chemical Substances Control Law
	EU RoHS Directive
	EU REACH Regulation Annex XVII
	EU POPs Regulation Annex I
PBDEs (Including Deca BDE)	The Chemical Substances Control Law
	EU RoHS Directive
	EU REACH Regulation Annex XVII
	EU POPs Regulation Annex I
Asbestos	Industrial Safety and Health Law
	EU REACH Regulation Annex XVII
Ozone-layer-depleting substances (Incl. Fluorine based greenhouse gasses)	Ozone Layer Protection Law
	Montreal Protocol
	US-Chlorofluorocarbon Tax
Tin compounds (TBT, TPT, TBTO, DBTs, DOTs)	The Chemical Substances Control Law
	EU REACH Regulation Annex XVII

Specific azo compound	EU REACH Regulation Annex XVII
Mirex	The Chemical Substances Control Law
Short-chain chlorinated paraffins	EU POPs Regulation Annex I
Polychlorinated biphenyls (PCB)	The Chemical Substances Control Law
	EU POPs Regulation Annex I
Polychlorinated naphthalene (PCN)	The Chemical Substances Control Law
	EU POPs Regulation Annex I
Polychlorinated terphenyls (PCT)	EU REACH Regulation Annex XVII
Formaldehyde	Germany-Chemicals Prohibition Ordinance
	Denmark-Formaldehyde Regulation
Cobalt chloride	EU REACH Regulation Annex XVII
Arsenic and its compounds	EU REACH Regulation Annex XVII
Specific benzotriazole	The Chemical Substances Control Law
Perfluorooctane sulfonic acids (PFOS) and its salts and Perfluorooctane sulfonic acid fluoride(PFOSF) (Note1)	The Chemical Substances Control Law
	EU POPs Regulation Annex I
Phthalic esters	EU REACH Regulation Annex XVII
	EU RoHS Directive
Dimethyl fumarate (DMF)	EU REACH Regulation Annex XVII
Polycyclic aromatic hydrocarbon (PAH)	EU REACH Regulation Annex XVII
N-Phenyl-benzenamine reaction products with styrene and 2,4,4-trimethylpentene	Canada Prohibition of Certain Toxic Substances Regulations, 2012
Hexabromo-cyclododecan (HBCD) and all major diastereoisomer	EU REACH Regulation Annex XVII
	The Chemical Substances Control Law
Perchlorates	Perchlorate Pollution Prevention Law of CA, USA 2003
Radioactive substance	Act on Prevention of Radiation Hazards due to Radioisotopes, etc.
	Act for the Control of Nuclear Materials, Nuclear Fuel Materials and Atomic Reactors
Beryllium oxide	EU WEEE Directive 2002/96/EC
Nickel	EU REACH Regulation Annex XVII
Polyvinyl chloride (PVC) and compounds	US industry standard JS709
Tris (2-chloroethyl) phosphate	EU REACH regulation Annex XVII
Brominated flame retardants (Exclude.PBB,PBDE)	EU REACH regulation Annex XVII

\* 1) The content is as of April, 2018, and the regulation is sometimes changed. Please refer to the latest information of the respective regulation for farther confirmation.

\* 2) Future developments

(1) Contact contamination of phthalates – Guidance HP address

<http://www.jamp-info.com/dl>

(2) PFHxS and its salt and PFHxS relating substance

< Relating information >

Necessity of banning on Manufacturing, Importing-Exporting and use is evaluated by POPRC committee of Stockholm Convention on Persistent Organic Pollutants (POPs)

There's possibility to decide "Banning, etc." by spring, 2011 at the earliest case.

Reflecting this, "Kashinhou ; Act on the Evaluation of Chemical Substances and

Regulation of Their Manufacture, etc." is also tending to be banned Manufacturing,

Importing-Exporting and Use in domestic field by 2021. (Information by Survey operation procedure of METI )

It would be necessary to apply "Evaluation for Risk Control" information procedure in Japan also.

**【Reference】** Main prospective application

1. Foam fire extinguishing agents
2. Metal plating
3. Textile, leather and upholstery
4. Abrasive and detergent
5. Coating, impregnation / reinforcement Protection from moisture, fungus, etc.)
6. Manufacture of electronic equipment and semiconductor
7. Corrosion inhibitors

(Note1) As the background of this banned control:

Although it is not registered with REACH, but it is considered as harmful effect, and it isn't imported in wide range yet, but it'll be the preceding regulation not to be substitution of "PFASs" regulated already.

“PFASs Perfluoroalkyl compounds”

Because American tap water pollution problem is affected widely.

(Fiber, paper, paint and liquid activator are major causes.)

**【Reference】**

METI : Assessment regarding PFHxS and its salt and PFHxS relating substance

[http://www.meti.go.jp/policy/chemical\\_management/int/pops\\_5.html](http://www.meti.go.jp/policy/chemical_management/int/pops_5.html)

## 5. Environmental impact substances

### (1) List of prohibited substances

#### · Cadmium and its compounds

Representative of chemical substances	CAS code	Applications
Cadmium	7440-43-9	-Contact materials -Surface treatment, Plating bath, Plating brighteners, -Pigments, Paint coating, Inks and Coloring agents, -Battery (Incl. Nickel-Cadmium and Alkaline batteries) -Low melting point solder -Fuses, etc. -Stabilizer used for plastics , Rubber or Film
Cadmium oxide	1306-19-0	
Cadmium sulfide	1306-23-6	
Cadmium chloride	10108-64-2	
Cadmium sulfate	10123-36-4	
<p><b>【Thresholds】</b></p> <ul style="list-style-type: none"> <li>• Not more than 100 ppm (or 75ppm*) in homogeneous material</li> <li>• Plastics (rubber are included), paint, ink 5ppm</li> <li>• Total consistency weight is not more than 100 ppm of cadmium, mercury, hexavalent chromium and lead in wrapping homogeneous material</li> <li>• Not more than 20ppm as soldering constituent</li> <li>• Intentional use prohibited</li> </ul> <p><b>【Exemptions】</b></p> <ul style="list-style-type: none"> <li>• Refer to the exemption items list of heavy metals regulated by RoHS Directive.</li> </ul> <p>*RoHS and REACH control subject substances</p>		

•Lead and its compounds

Representative of chemical substances	CAS code	Applications
Lead	7439-92-1	<ul style="list-style-type: none"> <li>• Solders, Brazing metal,</li> <li>• Electric contact material, Erosion-resistant surface treatment, Plating bath</li> <li>• Pigments, Paints, Inks, Dye</li> <li>• Vulcanization accelerator , lubricants , Hardeners , Stabilizers for plastics incl. rubber</li> <li>• Glass, Special optical glass, Optical glass</li> </ul>
Trilead tetraoxide	1314-41-6	
Lead ( II ) acetateTrihydrate	6080-56-4	
Lead ( II ) sulfate	7446-14-2 15739-80-7	
Lead catbonate	598-63-0	
Lead ( II ) Titanium oxide	12060-00-3	
Lead stearate	1072-35-1 7428-48-0	
Other lead compounds and alloys		
<p><b>【Thresholds】</b></p> <ul style="list-style-type: none"> <li>• Inclusion of more than 1,000 ppm homogeneous materials</li> <li>• Inclusion of not more than 300ppm in the polyvinyl chloride (PVC) wire coating material.</li> <li>• Inclusion of less than 100 ppm in the plastic (including rubber), inks, paints, etc.</li> <li>• Packaging material: Inclusion of not more than 100ppm by total weight concentration of cadmium, mercury, hexavalent chromium and lead is prohibited.</li> <li>• Intentional use prohibited</li> </ul> <p><b>【Exemptions】</b></p> <ul style="list-style-type: none"> <li>• Refer to “Exempted application list of restricted heavy metals by RoHS directive”.</li> <li>※Please confirm of the information from our purchaser in charge, or confirm our announcement</li> <li>※RoHS and REACH control subject substances</li> </ul>		

·Mercury and its compounds

Representative of chemical substances	CAS code	Applications
Mercury	7439-97-6	<ul style="list-style-type: none"> <li>▪ Battery</li> <li>▪ Pigments</li> </ul>
Mercuric chloride	7487-94-7	
Mercury (II) oxide	21908-53-2	
<p><b>【Thresholds】</b></p> <ul style="list-style-type: none"> <li>▪ Inclusion of more than 1000 ppm or 75ppm as impurity in homogeneous materials</li> <li>▪ Packaging material: Inclusion of not more than 100ppm by total weight concentration of cadmium, mercury, hexavalent chromium and lead is prohibited.</li> <li>▪ Intentional use prohibited</li> </ul> <p><b>【Exemptions】</b></p> <ul style="list-style-type: none"> <li>▪ Refer to the exemption items list of heavy metals regulated by RoHS Directive.</li> </ul> <p>*RoHS and REACH control subject substances</p>		

·Hexavalent chromium compounds

Representative of chemical substances	CAS code	Applications
Sodium dichromate	10588-01-9	<ul style="list-style-type: none"> <li>▪ Pigments</li> <li>▪ Inks</li> <li>▪ Paints</li> <li>▪ Surface treatment for rust</li> <li>▪ Catalyst</li> </ul>
Chromium trioxide	1333-82-0	
Potassium dichromate	7778-50-9	
Potassium chromate	7789-00-6	
<p><b>【Thresholds】</b></p> <ul style="list-style-type: none"> <li>▪ Inclusion of not more than 1,000 ppm as impurity in homogeneous materials</li> <li>▪ Inclusion of not more than 75 ppm as impurity in the surface treatment, coloring agent and plastic stabilizer.</li> <li>▪ Intentional use prohibited</li> </ul> <p><b>【Exemptions】</b></p> <p>Up to 0.75wt% Hexavalent chromium is allowed used for anticorrosion agent of the carbon steel cooling system in the absorption refrigerators.</p> <p>※1. Depending on the product, it is allowed as Residual impact substances. Please confirm of the information from our purchaser in charge or our announcement.</p> <p>※RoHS control subject substance</p>		

·PBBs

Representative of chemical substances	CAS code	Applications
Decabromobiphenyl	13654-09-6	· Flame retardant
3,3',4,4'-bromobiphenyl	77102-82-0	
2,2',4,5'-bromobiphenyl	67888-96-4	
<b>【Thresholds】</b> <ul style="list-style-type: none"> <li>· Intentional use prohibited</li> <li>· Inclusion of not more than 1,000 ppm in homogeneous materials</li> </ul> <p>※RoHS and REACH control subject substance</p>		

·PBDEs (Including Deca BDE)  
(Polybrominated Biphenyls and Deca BDE)

Representative of chemical substances	CAS code	Applications
Pentabromodiphenyl ether	32534-81-9	· Flame retardant
Octabromodiphenyl ether	32536-52-0	
Decabromodiphenyl ether	1163-19-5	
<b>【Thresholds】</b> <ul style="list-style-type: none"> <li>· Intentional use prohibited</li> <li>· Inclusion as impurity material: Not more than 1,000 ppm in homogeneous materials</li> </ul> <p>Notes : Deca- BDE is the other section by JIG list.</p> <p>※RoHS and REACH control subject substance</p>		

### Asbestos

Representative of chemical substances	CAS code	Applications
Asbestos	1332-21-4	<ul style="list-style-type: none"> <li>• Insulators</li> <li>• Frictional materials</li> <li>• Heat insulators</li> </ul>
Actinoit	77536-66-4	
Amosite	12172-73-5	
Chrysotile	12001-29-5	
Tremolite	77536-68-6	
<b>【Thresholds】</b> <ul style="list-style-type: none"> <li>• Intentional use prohibited</li> <li>※REACH control subject substance</li> </ul>		

- Ozone-layer-depleting substances(Incl. Fluorine-based greenhouse gas)  
HCFCs, HFCs, SF6, PFCs

Representative of chemical substances	Applications
Substances defined by the Montreal Protocol  Annex A (G I ,G II) Annex B (G I ,G II ,GIII) Annex C (G I ,G II) Annex E (G I )	<ul style="list-style-type: none"> <li>• Cooling medium</li> <li>• Extinguishing agents</li> <li>• Cleaning agents</li> </ul>
<b>【Thresholds】</b> <ul style="list-style-type: none"> <li>• Intentional use prohibited</li> </ul>	

· Tin compounds (TBT · TPT · TBTO · DBTs · DOTs)

Representative of chemical substances	CAS code	Applications
Tributan-1-ylstannyl methacrylate	2155-70-6	<ul style="list-style-type: none"> <li>• Paints, Pigments</li> <li>• Stabilizer</li> <li>• Antiseptic</li> <li>• Extinguishing agents</li> </ul>
Triphenylstannyl acetate	900-95-8	
Triphenyltin fatty acid (C9-11) salt	18380-71-7 47672-31-1 94850-90-5	
Bis(tributyltin) phthalate	4782-29-0	
Bis(tributyltin) oxide <sup>※</sup>	56-35-9	
Dibutyltin (DBT) compounds		
Dioctyltin (DOT) compounds		
<p><b>【Thresholds】</b></p> <ul style="list-style-type: none"> <li>• Intentional use prohibited</li> <li>• Inclusion of not more than 1,000 ppm in homogeneous materials</li> </ul> <p>Note: Including organic and inorganic substance Please contact our purchasers because there may be something excluded depending on our products. ※REACH control subject substance</p>		

· Specific azo compound

Representative of chemical substances	CAS code	Applications
Benzidine	92-87-5	<ul style="list-style-type: none"> <li>• Pigments</li> <li>• Dyes</li> <li>• Coloring agents</li> </ul>
3,3-Dichlorobenzidine	91-94-1	
o-Aminoazotoluene	97-56-3	
o-Anisidine	90-04-0	
4-(Phenyldiazenyl)aniline	60-09-3	
<p><b>【Thresholds】</b></p> <ul style="list-style-type: none"> <li>• Intentional use prohibited</li> <li>• Additives of textiles and leathers not more than 30 ppm(or 0.003 wt%).</li> </ul> <p>Note : Azo compound forming specific amine is azo group (-N=N-) being contained in dye or pigment, and this is cut and generated amines (carcinogenic substances) by enzyme action of human body. ※REACH control subject substance</p>		

• Mirex

Representative of chemical substances	CAS code	Applications
Mirex	2385-85-5	• Pesticide
Pentachlorobenzene	608-93-5	
<b>【Thresholds】</b> <ul style="list-style-type: none"> <li>• Intentional use prohibited</li> </ul> Another name : Perchloropentacyclo [5.3.0.0(2,6).0(3,9).0(4,8)] decane		

• Short-chain chlorinated paraffins (CP) (C10~13)

Representative of chemical substances	CAS code	Applications
Short-chain chlorinated paraffins (C10-C13)	85535-84-8	<ul style="list-style-type: none"> <li>• PVC plasticizer</li> <li>• Flame retardant</li> <li>• Greases</li> </ul>
<b>【Thresholds】</b> <ul style="list-style-type: none"> <li>• Intentional use prohibited</li> <li>• Inclusion of not more than 1,000 ppm in homogeneous materials</li> </ul> ※REACH control subject substance		

• Polychlorinated biphenyls (PCB) and specific substitution

Representative of chemical substances	CAS code	Applications
Polychlorinated biphenyls (All isomers and homologs)	1336-36-3	<ul style="list-style-type: none"> <li>• Heat medium</li> <li>• lubricant</li> <li>• Insulation oil for condenser</li> </ul>
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	
<b>【Thresholds】</b> <ul style="list-style-type: none"> <li>• Intentional use prohibited</li> <li>• Prohibition adherence, interfusion or generation during in production line</li> </ul> ※REACH control subject substance		

· Polychlorinated naphthalenes (PCN) (Not less than 3 atomicity of chlorine)

Representative of chemical substances	CAS code	Applications
Polychlorinated naphthalene	70776-03-3	<ul style="list-style-type: none"> <li>▪ Lubricant</li> <li>▪ Antiseptic</li> <li>▪ Paint</li> </ul>
Pentachloronaphthalene	1321-46-8	
<b>【Thresholds】</b> <ul style="list-style-type: none"> <li>▪ Prohibition of intentional use</li> </ul>		

· Polychlorinated terphenyls (PCT)

Representative of chemical substances	CAS code	Applications
Polychlorinated terphenyls (PCTs) (All isomers and homologs)	61788-33-8	<ul style="list-style-type: none"> <li>▪ Lubricant</li> <li>▪ Electrolytic solution</li> <li>▪ Antiseptic</li> <li>▪ Paint</li> <li>▪ Plasticizer</li> </ul>
<b>【Thresholds】</b> <ul style="list-style-type: none"> <li>▪ Intentional use prohibited</li> <li>※REACH control subject substance</li> </ul>		

· Formaldehyde

Representative of chemical substances	CAS code	Applications
Formaldehyde	50-00-0	<ul style="list-style-type: none"> <li>▪ Pesticide or Corrosion protection for woods, etc.</li> <li>Adhesive</li> </ul>
<b>【Thresholds】</b> <ul style="list-style-type: none"> <li>▪ Intention addition into Wooden products (Plywood, Particle board and MDF) or wooden parts</li> <li>▪ Not more than 75ppm of textile product weight</li> </ul>		

· Cobalt chloride

Representative of chemical substances	CAS code	Applications
Cobalt chloride	34240-80-7 7646-79-9	<ul style="list-style-type: none"> <li>▪ Humidity indicator in the desiccant, etc.</li> </ul>
Cobalt (II) chloride hexahydrate	7791-13-1	
Cobalt (III) chloride	10241-04-0	
<b>【Thresholds】</b> <ul style="list-style-type: none"> <li>▪ Intentional use prohibited</li> <li>※REACH control subject substance</li> </ul>		

· Arsenic and its compounds

Representative of chemical substances	CAS code	Applications
Diarsenic trioxide	1327-53-3	<ul style="list-style-type: none"> <li>▪ Semiconductor substrates</li> <li>▪ Glass antifoaming agents</li> <li>▪ Pigments</li> <li>▪ Paints</li> <li>▪ Flame retardants</li> </ul>
Diarsenic pentoxide	1303-28-2	
<b>【Thresholds】</b> <ul style="list-style-type: none"> <li>▪ Content: more than 1000ppm</li> <li>▪ Intentional use prohibited</li> <li>※Depending on the product, there is the case to be specified as prohibition substances. Please be compliant to the memorandum from our purchasing section.</li> <li>※REACH control subject substance</li> </ul>		

· Specific benzotriazole

Representative of chemical substances	CAS code	Applications
2-(2H-1,2,3-benzotriazol-2-yl)-4,6-di-tert-butylphenyl	3846-71-7	<ul style="list-style-type: none"> <li>▪ Ultraviolet ray inhibitors</li> <li>▪ Adhesives</li> <li>▪ Paints:</li> <li>▪ Filler for sealing (Ultraviolet absorber)</li> </ul>
<b>【Thresholds】</b> <ul style="list-style-type: none"> <li>▪ Intentional use prohibited</li> </ul>		

- Perfluorooctane sulfonic acid (PFOS) and its salts and Perfluorooctane sulfonic acids

Representative of chemical substances	CAS code	Applications
Perfluorooctanesulfonic acid	1763-23-1	<ul style="list-style-type: none"> <li>Hydraulic fluid</li> <li>Metal plating</li> <li>Cleaning materials</li> <li>Coating materials for paper and packaging materials</li> </ul>
Perfluorooctane sulfonate fluoride	307-35-7	
Heptadecafluoro-1-octanesulfonic acid lithium salt	29457-72-5	
Ammonium nonadecafluorononanesulphonate	17202-41-4	
<p><b>【Thresholds】</b></p> <ul style="list-style-type: none"> <li>Intentional use prohibited</li> </ul> <p><b>【Exemptions】</b></p> <ol style="list-style-type: none"> <li>Photographic coatings applied for films, papers and printing plates</li> <li>Photoresist or AR coating agent for photolithography process</li> <li>Inclusion of less than 0.1 % in the following specified metal plating               <ol style="list-style-type: none"> <li>Chrome electroplating</li> <li>Anti-electrodeposition metal deposition nickel</li> <li>Plastic plate etching before hardening</li> </ol> </li> </ol> <p>* REACH and POPs Treaty control subject substances</p>		

- Please visit the homepage of The Ministry of Economy, Trade and Industry (METI) concerning Perfluorooctane sulfonates (PFOS\*) and its relative compounds.

Stockholm treaty on Persistent Organic Pollutants (POPs Treaty)

[http://www.meti.go.jp/policy/chemical\\_management/int/pops.html](http://www.meti.go.jp/policy/chemical_management/int/pops.html)

Reference; PFOS and its relative compounds (96 substances list)

[http://www.meti.go.jp/policy/chemical\\_management/03kanri/96list.pdf](http://www.meti.go.jp/policy/chemical_management/03kanri/96list.pdf)

• Phthalic esters

Representative of chemical substances	CAS code	Applications
Bis (2-ethylhexyl) phthalate (DEHP)	117-81-7	<ul style="list-style-type: none"> <li>• Plasticizers</li> <li>• Dyes</li> <li>• Paints</li> <li>• Pigments</li> <li>• Inks</li> <li>• Adhesives</li> </ul>
Dibutyl phthalate (DBP)	84-74-2	
Butyl benzyl phthalate (BBP)	85-68-7	
Diisobutyl phthalate (DIBP)	84-69-5	
Diisononyl phthalate (DINP)	28553-12-0 68515-48-0	
Diisodecyl phthalate (DIDP)	26761-40-0 68515-49-0	
Di-N-octyl phthalate (DNOP)	117-84-0	
Di-N-hexyl phthalate (DnHP)	84-75-3	
Dicyclohexyl phthalate (DCHP)	84-61-7	
<p><b>【Thresholds】</b></p> <ul style="list-style-type: none"> <li>• Inclusion of more than 1000 ppm in homogeneous materials</li> <li>• Intentional use prohibited</li> </ul> <p>※REACH control subject substance Phthalic acid (DEHP) (DBP)(BBP)(DIBP)(DCHP)</p>		

• Dimethyl fumarate (DMF)

Representative of chemical substances	CAS code	Applications
Dimethyl fumarate	624-49-7	<ul style="list-style-type: none"> <li>• Desiccant agent</li> <li>• Fungicides</li> </ul>
<p><b>【Thresholds】</b></p> <ul style="list-style-type: none"> <li>• Inclusion of more than 0.1 ppm in homogeneous materials is prohibited.</li> <li>• Intentional use prohibited</li> </ul>		

• Polycyclic aromatic hydrocarbon (PAH)

Representative of chemical substances	CAS code	Applications
Benzo (a) pyrene (BaP)	50-32-8	• Pigments in the rubbers or plastics (Impurity agents)
Benzo (e) pyrene (BeP)	192-97-2	
Benzo (a) anthracene (BaA)	56-55-3	
Chrysene (CHR)	218-01-9	
Benzo (b) fluoranthene (BbFA)	205-99-2	
Benzo (j) fluoranthene (BjFA)	205-82-3	
Benzo (k) fluoranthene (BkFA)	207-08-9	
Benzo (a,h) anthracene (DBAhA)	53-70-3	
<b>【Thresholds】</b> <ul style="list-style-type: none"> <li>• Inclusion of more than 0.5 ppm in the component</li> </ul>		

• N-Phenyl-benzenamine reaction products with styrene and 2,4,4-trimethylpentene

Representative of chemical substances	CAS code	Applications
	68921-45-9	The antioxidant used for a rubber lubricant (additive)
<b>【Thresholds】</b> <ul style="list-style-type: none"> <li>• Intentional additive</li> </ul>		

- Hexabromo-cyclododecan (HBCDD) and the other major diastereoisomer

Representative of chemical substances	CAS code	Applications
Hexabromocyclododecane (HBCD)	25637-99-4	<ul style="list-style-type: none"> <li>Flame retardant</li> </ul>
	4736-49-6	
	65701-47-5	
	138257-17-7	
	138257-18-8	
	138257-19-9	
	169102-57-2	
	678970-15-5	
	678970-16-6	
	678970-17-7	
1,2,5,6,9,10-Hexabromocyclododecane	3194-55-6	
$\alpha$ - Hexabromocyclododecane	134237-50-6	
$\beta$ - Hexabromocyclododecane	134237-51-7	
$\gamma$ - Hexabromocyclododecane	134237-52-8	
<b>【Thresholds】</b> <ul style="list-style-type: none"> <li>Intentional use prohibited</li> <li>Inclusion of more than 1000ppm in the product</li> </ul>		

- Tris (2-chloroethyl) phosphate

Representative of chemical substances	CAS code	Applications
Tris(2-chloroethyl) phosphate (TCEP)	115-96-8	<ul style="list-style-type: none"> <li>Flame retardant</li> </ul>
Tris(1-chloro-2-propyl) phosphate (TCPP)	13674-84-5	
Tris(1,3-dichloro-2-propyl) Phosphate (TDCPP)	13674-87-8	
<b>【Thresholds】</b> <ul style="list-style-type: none"> <li>Inclusion of more than 1000ppm in the product</li> <li>Prohibited substance candidate</li> <li>※ Please follow the indication from our Purchasing section.</li> </ul>		
※ REACH regulation subjected substance		

· Beryllium oxide

Representative of chemical substances	CAS code	Applications
Beryllium oxide	1304-56-9	<ul style="list-style-type: none"> <li>· Heatsink</li> <li>· Ceramics</li> <li>· Alloy (e.g. Beryllium copper)</li> </ul>
<p><b>【Thresholds】</b></p> <ul style="list-style-type: none"> <li>· Provide the content</li> <li>· Inclusion of more than 1,000 ppm in materials</li> <li>· Intentional use prohibited (※)</li> </ul> <p>※ Please follow the indication from our Purchasing section because there may be something excluded depending on our products.</p>		

· Nickel

Representative of chemical substances	CAS code	Applications
Nickel	7440-02-0	<ul style="list-style-type: none"> <li>· Stainless steel alloy</li> <li>· Battery</li> <li>· Plating</li> </ul>
<p><b>【Thresholds】</b></p> <ul style="list-style-type: none"> <li>· Intentional use prohibited for the parts touching to the skin for a long time</li> <li>· Inclusion of more than 1000ppm</li> </ul> <p><b>【Exemption】</b></p> <ul style="list-style-type: none"> <li>· The parts, materials, etc. not touching the skin for a long time.</li> </ul> <p>* REACH regulation subjected substance.</p>		

(2) List of controlled substances

· Perchlorates

Representative of chemical substances	CAS code	Applications
Lithium perchlorate	7791-03-9	<ul style="list-style-type: none"> <li>· Flame retardant</li> <li>· Plasticizing agent</li> </ul>
<b>【Thresholds】</b> <ul style="list-style-type: none"> <li>· Disclosure of contents</li> <li>· Inclusion of more than 0.006 ppm in the products</li> </ul>		

· Radioactive substance

Representative of chemical substances	CAS code	Applications
Uranium-238	7440-61-1	<ul style="list-style-type: none"> <li>· Optical property (Thorium)</li> <li>· Measuring equipment</li> <li>· Detector</li> <li>· Gauges</li> <li>· Smoke detector</li> </ul>
Radon	10043-92-2	
Cesium(Cs-137)	7440-46-2	
Strontium(Sr-90)	7440-24-6	
Thorium (Th-232)	7440-29-1	
<b>【Thresholds】</b> <ul style="list-style-type: none"> <li>· Disclosure of contents</li> </ul>		

· Brominated flame retardants (Except PBB and PBDE)

Representative of chemical substances	CAS code	Applications
3,5,3,5-Tetrabromobisphenol A (TBBA)	79-94-7	<ul style="list-style-type: none"> <li>· Flame retardants</li> <li>· Multilayer printed circuit board</li> </ul>
Tetrabromo bisphenol S	39635-79-5	
Bromo / chloro paraffins	68955-41-9	
Polydibromostyrene	31780-26-4	
Chlorinated, brominated phosphoric acid esters	125997-20-8	

• Polyvinyl chloride (PVC) and compounds

Representative of chemical substances	CAS code	Applications
Polyvinyl chloride (PVC) and Polyvinyl chloride (PVC) compounds	9002-86-2	<ul style="list-style-type: none"> <li>• Resin material</li> <li>• Insulating plate</li> <li>• Heat shrinkable tube</li> <li>• Packaging materials (Adhesive tape, Carton box, etc.)</li> </ul>
<p><b>【Thresholds】</b></p> <ul style="list-style-type: none"> <li>• Disclosure of contents (Threshold is not less than 1000ppm)</li> <li>• Prohibition of intentional use (*)</li> </ul> <p>* It may be set up as a prohibited substance depending on products. Please follow the information from our purchaser in charge.</p> <p><b>【Exemptions】</b></p> <ol style="list-style-type: none"> <li>1. Binder for resins</li> <li>2. Speaker grilles</li> <li>3. AC cable</li> <li>4. Blended parts of vinyl chloride copolymers, Polyvinyl chloride and other polymers.</li> <li>5. Cables for professional application not for general purpose (e.g. Camera cables and microphone cables of broadcasting stations)</li> </ol>		

• The other organochlorine compounds

Representative of chemical substances	CAS code	Applications
cis-1,2- Dichloroethylene	156-59-2	<ul style="list-style-type: none"> <li>• Flame retardant materials used for Layered PCB</li> <li>• Plasticizing agent for parts</li> </ul>
<p><b>【Thresholds】</b></p> <ul style="list-style-type: none"> <li>• Layered PCB not more than 900ppm</li> <li>• Intentional use prohibited</li> </ul>		

(3) Exemption of Heavy Metals Restricted by RoHS Directives

No.	Exemptions	Range	Regulatory exclusion period
<b>Mercury and its compounds</b>			
1	Mercury in single capped (compact) fluorescent lamps not exceeding (per burner):		
1(a)	For general lighting purposes < 30 W	2.5mg	Category 1-7, 10 Under extended consultation * Category 8, 9, 11 2021/7/21
1(b)	For general lighting purposes > 30 W and < 50 W	3.5mg	Category 1-7, 10 Under extended consultation * Category 8, 9, 11 2021/7/21
1(c)	For general lighting purposes > 50 W and < 150 W	5mg	Category 1-7, 10 Under extended consultation * Category 8, 9, 11 2021/7/21
1(d)	For general lighting purposes > 150 W	15mg	Category 1-7, 10 Under extended consultation * Category 8, 9, 11 2021/7/21
1(e)	For general lighting purposes with circular or square structural shape and tube diameter < 17 mm	Not more than 7mg	2 Category 1-7, 10 Under extended consultation * Category 8, 9, 11 2021/7/21
1(f)	For special purposes	5mg	Category 1-7, 10 Under extended consultation * Category 8, 9, 11 2021/7/21
2(a)	Mercury in double-capped linear fluorescent lamps for general lighting purposes not exceeding (per lamp):		
2(a)(1)	Tri-band phosphor with normal lifetime and a tube diameter < 9 mm (e.g. T2)	4mg	Category 1-7, 10 Under extended consultation * Category 8, 9, 11 2021/7/21
2(a)(2)	Tri-band phosphor with normal lifetime and a tube diameter > 9 mm and < 17 mm (e.g. T5) :	3mg	Category 1-7, 10 Under extended consultation * Category 8, 9, 11 2021/7/21
2(a)(3)	Tri-band phosphor with normal lifetime and a tube diameter > 17 mm and < 28 mm (e.g. T8) :	3.5mg	Category 1-7, 10 Under extended consultation * Category 8, 9, 11 2021/7/21
2(a)(4)	Tri-band phosphor with normal lifetime and a tube diameter > 28 mm (e.g. T12) :	3.5mg	Category 1-7, 10 Under extended

			consultation * Category 8, 9, 11 2021/7/21
2(a)(5)	Tri-band phosphor with long lifetime (> 25,000 h) :	5mg	Category 1-7, 10 Under extended consultation * Category 8, 9, 11 2021/7/21
2(b)	Mercury in other fluorescent lamps (per lamp):		
2(b)(3)	Tri-band phosphor except a long length fluorescent lamp and a tube diameter > 17mm	(e.g. T9) Not more than 15mg	Category 1-7, 10 Under extended consultation * Category 8, 9, 11 2021/7/21
2(b)(4)	Lamps for other general lighting and special purposes (e.g. Induction lamps) Not more than 15mg	Not more than 15mg	Category 1-7, 10 Under extended consultation * Category 8, 9, 11 2021/7/21
3	Mercury in cold cathode fluorescent lamps and external electrode fluorescent lamps (CCFL and EEFL) for special purposes (per lamp):		
3(a)	Short length (not more than 500 mm) Not more than 3.5mg	Not more than 3.5mg	Category 1-7, 10 Under extended consultation * Category 8, 9, 11 2021/7/21
3(b)	Medium length (500 mm < and ≤ 1,500 mm) Not more than 5mg	Not more than 5mg	Category 1-7, 10 Under extended consultation * Category 8, 9, 11 2021/7/21
3(c)	Long length ( 1,500 mm < ): Not more than 13mg	Not more than 13mg	Category 1-7, 10 Under extended consultation * Category 8, 9, 11 2021/7/21
4(a)	Mercury in other low pressure discharge lamps	Not more than 15mg	Category 1-7, 10 Under extended consultation * Category 8, 9, 11 2021/7/21
4(b)	Mercury in High Pressure Sodium (vapor) lamps for general lighting purposes (per burner) in lamps with improved color rendering index Ra > 60:		
4(b)- I	P ≤ 155W Not more than 30mg	Not more than 30mg	Category 1-7, 10 Under extended consultation * Category 8, 9, 11 2021/7/21
4(b)- II	155W < P ≤ 405W Not more than 40mg	Not more than 40mg	Category 1-7, 10 Under extended consultation * Category 8, 9, 11 2021/7/21
4(b)- III	P > 405W Not more than 40mg	Not more than 40mg	Category 1-7, 10 Under extended consultation * Category 8, 9, 11

			2021/7/21
4(c)	Mercury in other High Pressure Sodium (vapor) lamps for general lighting purposes (per burner):		
4(c)- I	P ≤ 155W Not more than 25mg	Not more than 25mg	Category 1-7, 10 Under extended consultation * Category 8, 9, 11 2021/7/21
4(c)- II	155W < P ≤ 405W Not more than 30mg	Not more than 30mg	Category 1-7, 10 Under extended consultation * Category 8, 9, 11 2021/7/21
4(c)- III	P > 405 W : Not more than 40mg	Not more than 40mg	Category 1-7, 10 Under extended consultation * Category 8, 9, 11 2021/7/21
4(e)	Mercury in metal halide lamps (MH)		Category 1-7, 10 Under extended consultation * Category 8, 9, 11 2021/7/21
4(f)	Mercury in other discharge lamps for special purposes not specifically mentioned in this Annex		Category 1-7, 10 Under extended consultation * Category 8, 9, 11 2021/7/21
Hexavalent chromium compounds			
9	Hexavalent chromium as an anticorrosion agent of the carbon steel cooling system in absorption refrigerators up to 0.75Wt % in the cooling solution		Category 1-7, 10 Under extended consultation * Category 8, 9, 11 2021/7/21
Lead and its compounds			
5(a)	Lead in glass of cathode ray tubes		Category 8, 9, 11 2021/7/21
5(b)	Lead in glass of fluorescent tubes not exceeding 0.2 Wt%		Category 1-7, 10 Under extended consultation * Category 8, 9, 11 2021/7/21
6(a)	Lead as an alloying element in steel for machining purposes and in galvanized steel containing up to 0.35Wt% lead		Category 1-7, 10 1 year from Official Gazette promulgated** Category 8, 9, 11 2021/7/21
6(b)	Lead in aluminum alloy containing up to 0.4 Wt%		Category 1-7, 10 1 year from Official Gazette promulgated** Category 8, 9, 11 2021/7/21
6(c)	Lead in copper alloy containing up to 4 Wt%		Category 1-7, 10 Category 8, 9, 11 2021/7/21

7(a)	Lead in high melting temperature type solders (i.e. lead-based alloys containing 85Wt% or more lead) Exception: Application for Electric and electronics waste of EU WEEE Directive (Category 7, 10)		Category 7, 10 Category 8, 9, 11 2021/7/21
7(b)	Lead in solders for servers, storage and storage array systems, network infrastructure equipment for switching, signalling, transmission, and network management for telecommunications		Category 8, 9, 11 2021/7/21
7(c)- I	Electrical and electronic components containing lead in a glass-ceramic other than dielectric ceramic in capacitors, e.g. piezo-electronic devices, or in a glass or ceramic matrix compound. Exception: Application for the matters covered by the regulation of the lead content in the battery of China (Category 7, 10)		Category 7, 10 Category 8, 9, 11 2021/7/21
7(c)- II	Lead in dielectric ceramic in capacitors for a rated voltage of 125 V AC or 250 V DC or higher		Category 7, 10 Category 8, 9, 11 2021/7/21
9(b)	Lead in bearing shells and bushes for refrigerant containing compressors for heating, ventilation, air conditioning and refrigeration (HVACR) applications		Category 8, 9, 11 2021/7/21
13(a)	Lead in white glasses used for optical applications		Category 7, 10 Category 8, 9, 11 2021/7/21
13(b)	Lead in filter glasses and glasses used for reflectance standards		Category 8, 9, 11 2021/7/21
15	Lead in solders to complete a viable electrical connection between semiconductor die and carrier within integrated circuit flip chip packages		Category 7, 10 1 year from Official Gazette promulgated** Category 8, 9, 11 2021/7/21
17	Lead halide as radiant agent in high intensity discharge (HID) lamps used for professional reprography applications		Category 8, 9, 11 2021/7/21
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 (BaSi2O5:Pb)		Category 7, 10 1 year from Official Gazette promulgated** Category 8, 9, 11 2021/7/21
21	Lead in printing inks for the application of enamels on glasses, such as borosilicate and soda lime glasses and <b>cadmium</b>		Category 7, 10 1 year from Official Gazette promulgated** Category 8, 9, 11 2021/7/21
24	Lead in solders for the soldering to machined through hole discoidal and planar array ceramic multilayer capacitors		Category 7, 10 Category 8, 9, 11 2021/7/21
25	Lead oxide in surface conduction electron emitter displays (SED) used in structural elements, notably in the seal frit and frit ring		Category 8, 9, 11 2021/7/21
29	Lead bound in crystal glass as defined in Annex I (Categories 1, 2, 3 and 4) of Council		Category 7, 10 Category 8, 9, 11

	Directive 69/493/EEC		2021/7/21
31	Lead in soldering materials in mercury free flat fluorescent lamps (which e.g. are used for liquid crystal displays, design or industrial lighting)		Category 8, 9, 11 2021/7/21
32	Lead oxide in seal frit used for making window assemblies for Argon and Krypton laser tubes		Category 7, 10 Category 8, 9, 11 2021/7/21
33	Lead in solders for the soldering of thin copper wires of 100 µm diameter and less in power transformers		Category 8, 9, 11 2021/7/21
34	Lead in cermet-based trimmer potentiometer elements		Category 7, 10 Category 8, 9, 11 2021/7/21
37	Lead in the plating layer of high voltage diodes on the basis of a zinc borate glass body		Category 7, 10 Category 8, 9, 11 2021/7/21
Cadmium and its compounds			
8(b)	Cadmium and its compounds in electrical contacts		Category 7, 10 1 year from Official Gazette promulgated** Category 8, 9, 11 2021/7/21
13(b)	Cadmium in filter glasses and glasses used for reflectance standards		Category 8, 9, 11 2021/7/21
21	Cadmium in printing inks for the application of enamels on glasses, such as borosilicate and soda lime glasses		Category 7, 10 1 year from Official Gazette promulgated** Category 8, 9, 11 2021/7/21
30	Cadmium alloys as electrical/mechanical solder joints to electrical conductors located directly on the voice coil in transducers used in high-powered loudspeakers with sound pressure levels of 100 dB and more		Category 8, 9, 11 2021/7/21
38	Cadmium and cadmium oxide in thick film pastes used on aluminium bonded beryllium oxide		Category 8, 9, 11 2021/7/21

Note) Each exclusion item of EU-RoHS regulation listed in this list is the one as of 2018/4/28, not the one guarantees the contents of a law. Please refer to the law original for the latest information.

Note)\* Exclusion extension application may be submitted, and it is admitted for 1 year acceptable period (Extension due date) from a law expired date. For Category 1 – 7 and 10, they are during consultation for partial extension.

(4) Exemption of RoHS Directive Annex IV (Medical devices; Category 8 and Monitoring and control instruments; Category 9)

Exemptions out of EU-RoHS regulation No.	Exemptions	Regulatory exclusion period
Mercury and its compounds		
Equipment utilising or detecting ionising radiation		
1	Lead, cadmium and mercury in detectors for ionising radiation.	2021/7/21
Sensors, detectors and electrodes		
1c	Lead, cadmium and mercury in infra-red light detectors.	2021/7/21
1d	Mercury in reference electrodes: low chloride mercury chloride, mercury sulphate and mercury oxide.	2021/7/21
Others		
16	Mercury in very high accuracy capacitance and loss measurement bridges and in high frequency RF switches and relays in monitoring and control instruments not exceeding 20 mg of mercury per switch or relay.	2021/7/21
35	Mercury in cold cathode fluorescent lamps for back-lighting liquid crystal displays, not exceeding 5 mg per lamp, used in industrial monitoring and control instruments placed on the market before 2017/7/22	2024/7/21.
Hexavalent chromium compounds		
Others		
30	Hexavalent chromium in alkali dispensers used to create photocathodes in X-ray image intensifiers. Hexavalent chromium in alkali dispensers used to create to create photocathodes in X-ray image intensifiers placed on the EU market before 2020/1/1	2019/12/31
31a	Lead, cadmium and hexavalent chromium in reused spare parts, recovered from medical devices placed on the market before 22 July 2014 and used in category 8 equipment placed on the market before 22 July 2021, provided that reuse takes place in auditable closed-loop business-to-business return systems, and that the reuse of parts is notified to the consumer.	2021/7/21
Lead and its compounds		
Equipment utilising or detecting ionising radiation		
1	Lead, cadmium and mercury in detectors for ionising radiation.	2021/7/21
2	Lead bearings in X-ray tubes.	2021/7/21
3	Lead in electromagnetic radiation amplification devices: micro-channel plate and capillary plate.	2021/7/21

4	Lead in glass frit of X-ray tubes and image intensifiers and lead in glass frit binder for assembly of gas lasers and for vacuum tubes that convert electromagnetic radiation into electrons.	2021/7/21
5	Lead in shielding for ionising radiation.	2021/7/21
6	Lead in X-ray test objects.	2021/7/21
7	Lead stearate X-ray diffraction crystals.	2021/7/21
8	Radioactive cadmium isotope source for portable X-ray fluorescence spectrometers.	2021/7/21
Sensors, detectors and electrodes		
1a	Lead and cadmium in ion selective electrodes including glass of pH electrodes.	2021/7/21
1b	Lead anodes in electrochemical oxygen sensors.	2021/7/21
1c	Lead, cadmium and mercury in infra-red light detectors.	2021/7/21
1d	Mercury in reference electrodes: low chloride mercury chloride, mercury sulphate and mercury oxide.	2021/7/21
Others		
10	Lead and cadmium in atomic absorption spectroscopy lamps.	2021/7/21
11	Lead in alloys as a superconductor and thermal conductor in MRI.	2021/7/21
12	Lead and cadmium in metallic bonds creating superconducting magnetic circuits in MRI, SQUID, NMR (Nuclear Magnetic Resonance) or FTMS (Fourier Transform Mass Spectrometer) detectors.	2021/6/30
13	Lead in counterweights.	2021/7/21
14	Lead in single crystal piezoelectric materials for ultrasonic transducers.	2021/7/21
15	Lead in solders for bonding to ultrasonic transducers.	2021/7/21
17	Lead in solders in portable AED (automated external defibrillator).	2021/7/21
18	Lead in solders of high performance infrared imaging modules to detect in the range 8-14 $\mu\text{m}$ .	2021/7/21
19	Lead in Liquid crystal on silicon (LCoS) displays.	2021/7/21
22	Lead acetate marker for use in stereotactic head frames for use with CT and MRI and in positioning systems for gamma beam and particle therapy equipment.	2021/6/30
23	Lead as an alloying element for bearings and wear surfaces in medical equipment exposed to ionising radiation.	2021/6/30
24	Lead enabling vacuum tight connections between aluminium and steel in X-ray image intensifiers.	2019/12/31
25	Lead in the surface coatings of pin connector systems requiring nonmagnetic connectors which are used durably at a temperature below $-20\text{ }^{\circ}\text{C}$ under normal operating and storage conditions.	2021/6/30

26	Lead in — solders on printed circuit boards, — termination coatings of electrical and electronic components and coatings of printed circuit boards, — solders for connecting wires and cables, — solders connecting transducers and sensors, that are used durably at a temperature below – 20 °C under normal operating and storage conditions.	2021/6/30
27	Lead in — solders, — termination coatings of electrical and electronic components and printed circuit boards, — connections of electrical wires, shields and enclosed connectors, which are used in (a) magnetic fields within the sphere of 1 m radius around the isocentre of the magnet in medical magnetic resonance imaging equipment, including patient monitors designed to be used within this sphere, or (b) magnetic fields within 1 m distance from the external surfaces of cyclotron magnets, magnets for beam transport and beam direction control applied for particle therapy.	2020/6/30
29	Lead in alloys, as a superconductor or thermal conductor, used in cryo-cooler cold heads and/or in cryo-cooled cold probes and/or in cryo-cooled equipotential bonding systems, in medical devices (category 8) and/or in industrial monitoring and control instruments.	2021/6/30
31a	Lead, cadmium and hexavalent chromium in reused spare parts, recovered from medical devices placed on the market before 22 July 2014 and used in category 8 equipment placed on the market before 22 July 2021, provided that reuse takes place in auditable closed-loop business-to-business return systems, and that the reuse of parts is notified to the consumer.	2021/7/21
32	Lead in solders on printed circuit boards of detectors and data acquisition units for Positron Emission Tomographs (PET) which are integrated into Magnetic Resonance Imaging (MRI) equipment.	2019/12/31
33	Lead in solders on populated printed circuit boards used in Directive 93/42/EEC class IIa and IIb mobile medical devices other than portable AED (automated external defibrillator).	2016/6/30 a) 2020/12/31 b)
34	Lead as an activator in the fluorescent powder of discharge lamps when used for extracorporeal photopheresis lamps containing BSP (BaSi2O5:Pb) phosphors.	2021/7/22
36	Lead used in other than C-press compliant pin connector systems for industrial monitoring and control instruments. May be used after that date in spare parts for industrial monitoring and control instruments placed on the market before 2021/1/1.	2020/12/31
37	Lead in platinized platinum electrodes used for conductivity measurements where at least one of the following conditions applies: (a) wide-range measurements with a conductivity range covering more than 1 order of magnitude (e.g. range between 0,1 mS/m and 5 mS/m) in laboratory applications for unknown concentrations; (b) measurements of solutions where an accuracy of +/- 1 % of the sample range and where high corrosion resistance of the electrode are required for any of the following:	Under extended consultation *



Others		
9	Cadmium in helium-cadmium lasers.	2021/7/21
10	Lead and cadmium in atomic absorption spectroscopy lamps.	2021/7/21
12	Lead and cadmium in metallic bonds creating superconducting magnetic circuits in MRI, SQUID, NMR (Nuclear Magnetic Resonance) or FTMS (Fourier Transform Mass Spectrometer) detectors.	2021/6/30
20	Cadmium in X-ray measurement filters.	2021/7/21
21	Cadmium in phosphor coatings in image intensifiers for X-ray images until 31 December 2019 and in spare parts for X-ray systems placed on the EU market before 1 January 2020.	2019/12/31
31a	Lead, cadmium and hexavalent chromium in reused spare parts, recovered from medical devices placed on the market before 22 July 2014 and used in category 8 equipment placed on the market before 22 July 2021, provided that reuse takes place in auditable closed-loop business-to-business return systems, and that the reuse of parts is notified to the consumer.	2021/7/21

#### Legal expiration date

- 21 July 2021 for general category 8, 9
- 21 July 2023 for category 8 in vitro diagnostic medical devices;
- 21 July 2024 for category 9 industrial monitoring and control instruments
- 21 July 2024 for category 11 (Other EEE (electrical and electronic equipment))

(Above is the legal expiration dates unless any request is submitted regarding withdrawal of exemption or reduction of the applicable range)

Regarding the items which the regulatory exemption deadline is short, please contact our corresponding purchasing section

\*The “Legal expiration dates” refers to a legal time limit after which the concerned application will no longer be exempted. When, however, an exemption renewal application is submitted within 18 months prior to the expiration date, the exemption will be placed “Under discussion.”

\*\*As of April 28, 2018, these exemptions are to remain valid for one year after the publication of the EU’s Official Journal that reports new requirements amended this time. When an exemption renewal application is submitted afterwards, the exemption will remain valid until its expiration date given in this table. The old exemptions will be revoked after their legal expiration dates without further extension (one year after Official Journal publication).

## 6. Requests to our suppliers

### (1) Content survey of chemical substances

For perceiving the situation of the environmental impact substance and its volume containing in parts, materials, etc. delivered, please be understood that our suppliers may be required to submit the chemical substance contents report.

·ICP Data

·SDS (Safety Data Sheet)

·Content substance investigation sheet (chemSHERPA, other contents tables)

\* For the detail of chemSHERPA, please visit the following HP.

chemSHERPA is a common scheme for information communication of available product containing chemicals by METI-led whole origin supply chain and is the system to manage chemicals contained by a product properly and response to the regulation which expands continually.

·Ministry of Economy, Trade and Industry (METI)

[http://www.meti.go.jp/policy/chemical\\_management/other/douga\\_gaiyou.pdf](http://www.meti.go.jp/policy/chemical_management/other/douga_gaiyou.pdf)

·Survey slip and the Guideline relation (in Article Management Promotion-consortium)

<https://chemsherpa.net/>

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

<Note>

MSDSplus/AIS input assistance tool updating and disclosure have been finished at 17:00, 29 June 2018 and it is necessary to update investigation by the latest chemSHERPA.

Please also be understood that our suppliers may be required to submit of the use and reduction survey/report when there was any environmental impact substance in those manufacturing lines, also.

In the event that it is considered its necessity, please be understood for our audit to your manufacturing lines.

### (2) Memorandum of Green Procurement

To ensure the environmental impact substance reduction and appropriate control of chemical substance in the delivered parts, materials, etc. please be understood to conclude “Memorandum of Green Procurement” in case.

### (3) Certificate of Non-Use of Prohibited Substance

- 1) Prohibited substances specified are cannot be used in all the delivery products (parts, materials, etc., etc.) except that the products are permitted according to the exceptional measures or the current regulatory value is exceptionally accepted under the condition until accomplishment of the target year.
- 2) Please submit the documents “Certificate of Non-Use of Prohibited Substance” as to certify above when we requested.

(Notes)

When a prohibited substance is contained or used in your lines, please inform our corresponding purchasing section beforehand and discuss that handling.

When it comes to be clear after delivery that a prohibited substance is contained or used in your lines, please contact our corresponding purchasing section at once and please discuss that handling.

### (4) Disclosure of information

Regarding the material, parts, composition component, etc. which delivered to us, please submit the following corresponding data promptly when we request.

- 1) Material data (Consisting parts and components: Stainless steel, Copper, Aluminum, etc.)
- 2) Content material data (Elaborated in parts and components: Names of chemical substance, Content, Environmental risks, etc.)
- 3) Other data (in the event when Adamant Namiki judged it necessary)

### (5) Handling of Information

The material and contained substance information of the products received from our suppliers is shared within Adamant Namiki.

Please be understood that we may disclose those information to our customer, etc. when required as part of Adamant Namiki product relating information

If you have any inconvenience to disclose, please contact our corresponding purchasing section.

7. Revision history

Rev.	Description	Establishment	Enforcement
0	Initial edition after change the company name and reviewed the regulatory exclusion period	22 / JAN / 2018	01 / FEB / 2018
1	Review the deadline of application exemption substrates. Phthalic acid contact pollution. Handling of PFHxS relating substrate. NPT apply this book also.	01 / APR / 2019	01 / MAY / 2019