

# **Green Procurement Guidelines**

**October 2009**

**D&M Holdings, Inc.**

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## Introduction

D&M Holdings Inc. considers that corporate activities placing importance in preservation of the global environment is the most critical issue, not only solely in Japan, but on a worldwide basis.

As a part of our efforts in preserving the global environment, D&M Holdings Inc. has, at this time, partially revised our Green Procurement Guidelines and now wish to inform and share them with our business partners.

The products sold by our brand companies are made of parts and materials supplied by our business partners. Consequently, we believe that our business partners' cooperation is imperative in our efforts to abide by our own Green Procurement Guidelines.

Our business partner's cooperation with business activities based on D&M Holdings, Inc.'s Green Procurement Guideline is indispensable. As such, we request our business partners' full understanding in our continued efforts in preserving global environment and to act, at the minimum, pursuant to our Green Procurement Guidelines.

October 2009

**D&M Holdings, Inc.**  
**Brand Group Japan**

# Overview of D&M Holdings, Inc. Green Procurement

## 1. Purpose

The purpose of D&M Holdings Green Procurement is to work together with suppliers in order to reduce environmental load, with the goal of preserving a sustainable global environment.

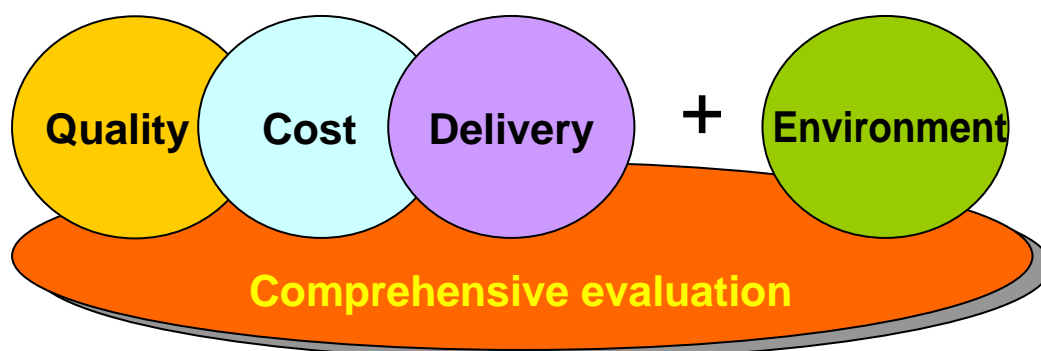
## 2. Scope

Our Green Procurement Guidelines will apply to the following items purchased by D&M Holdings:

- Raw materials
- Parts (including packaging materials) and semi-finished products
- Auxiliary materials
- Finished products

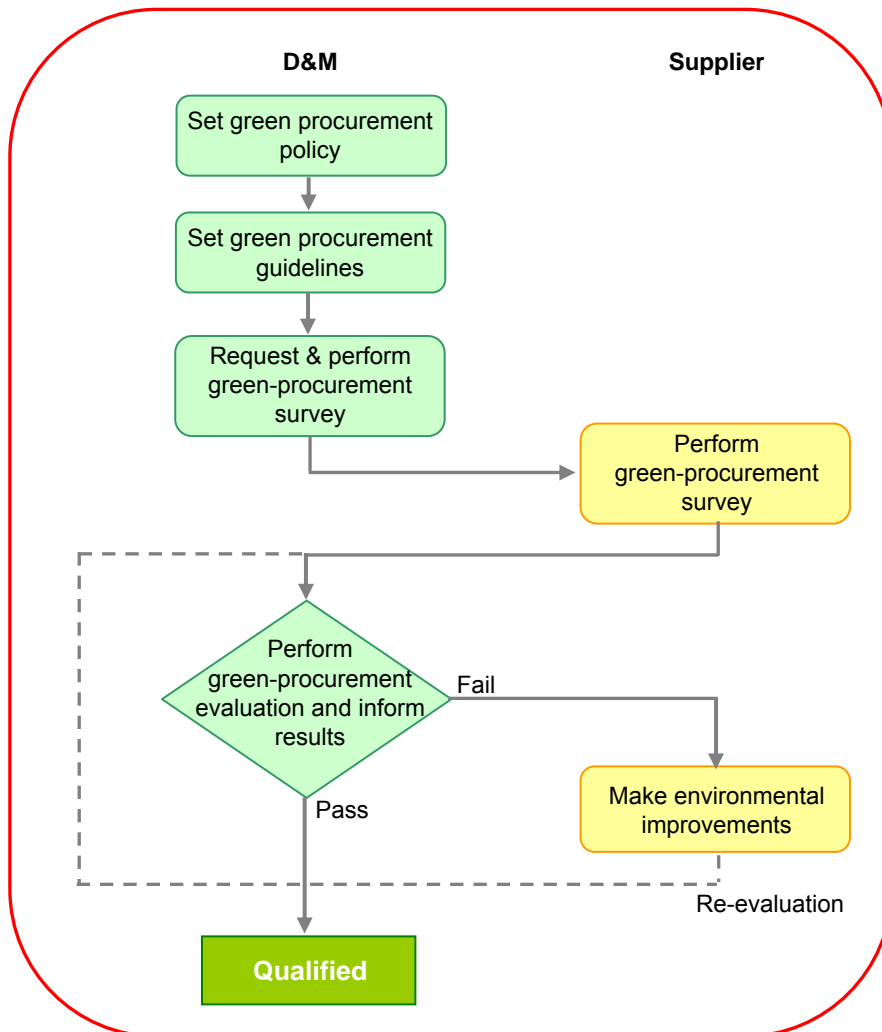
## 3. Green Procurement Policy

The goal of Green Procurement is to “reduce environmental load”. We will pursue our Green Procurement together with our business partners by evaluating goods/materials and suppliers from the standpoint of reducing environmental loads. As such, D&M Holdings Inc.s’ procurement shall be based on the following criterion: Quality, Cost, Delivery, and Environment (QCD + E).



## 4. The Green Procurement Process Flow

D&M Holdings pursues green procurement according to the following process flow:



## 5. Evaluation and Survey

### 5.1 Evaluation Criterion

#### Evaluation Criterion for Suppliers

- Corporate Creed/Policy relating to the environment
- Organizations/Plans relating to the environment
- Operational Management (frameworks)
- Environmental Impacts (impact assessment)

We recommend that our suppliers obtain and maintain ISO 14001 certification or other management standards conforming to ISO 14001.

< Other management standards conforming to ISO 14001 is Japanese environmental certifications. >

#### Evaluation Criterion for Parts and Products

Compliance with laws and ordinances

WEEE/RoHS-related directives (Including the directives of EU, US, China and others)

REACH Regulation

The Law concerning the Examination and Regulation of Manufacture etc.of Chemical Substances.

- Control of Specified Chemical Substances contained in products
- Resources/Energy Savings and Use of Recycled Resources
- Recyclability
- Level of Environmentally Conscious Packaging Materials
- Finished Products Reusability(WEEE)

### 5.2 Evaluation Standard

In addition to the current supplier evaluations based on products' quality and delivery, D&M Holdings Inc. will perform a comprehensive evaluation, considering the results of the supplier survey based on the evaluation criterion mentioned in the Section 5.1 of this Green Procurement Guidelines.

### 5.3 Surveyed Items

The survey shall be conducted to confirm if the materials, parts, or products delivered by suppliers comply with the applicable threshold level specified in the Section 6 entitled "Specified Chemical Substances" of this Green Procurement Guidelines..

Each supplier should provide the survey data of composition materials and chemical substances contained in all the materials, parts, and/or products purchased by D&M Holdings Inc., using the following tools or formats.

- JAMP AIS
- JGPSSI Survey Response Tool
- Our own form\*1

\*1: D&M's original survey shall be conducted on any specific case or chemical substances when required in compliance with new or revised applicable laws, regulations, ordinances, etc..

## 6. Specified Chemical Substances

D&M Holdings Inc. has established and will database amounts of high environmental load chemical substances contained in raw materials, parts and products we purchase. Using the information contained in the database, we will track and calculate the total amount of each chemical substances that will contain in our finalized products and will work to eliminate those parts and materials in the course of our products development.

Specified Chemical Substances shall be classified into two categories, "Prohibited Substances" and "Controlled Substances". "Prohibited Substances" should not be included in any products purchased by D&M Holdings Inc. "Controlled substances" may be included but efforts must be made to minimized the amounts contained in any given parts or products.

Please refer to the Appendix 1 and 2, attached to this Green Procurement Guidelines, for the substances list, and to the Appendix 3, likewise, for the main rules and regulations.

## 7. Labeling of the Names of Plastics

For any items delivered to D&M Holdings Inc., we request that the names of plastics be indicated according to the Japanese Industrial Standard (JIS). The indication is obligatory for any molded plastic parts weighing 25 grams or more, and is strongly encouraged for parts weighing less than 25 grams.

JIS K 6899 (ISO 1043-1)

"Plastics – Symbols – Part 1: Basic polymers and their special characteristics"

JIS K 6899-2 (ISO 1043-2)

"Plastics – Symbols – Part 2: Fillers and reinforcing materials"

JIS K 6999 (ISO 11469)

"Plastics –Generic identification and marking of plastic products"

## **8. D&M Holdings Inc.'s Recommendations**

### **8-1. Save Resources and Energy**

We request our suppliers to cooperate in our efforts in saving as much resources and energy during production to distribution to actual use, so as to minimize burden on environment.

- (1) Minimize the consumption of electricity, and keep the standby power consumption to less than 1 W.
- (2) Minimize the size and the weight.
- (3) Minimize the use of scarce resources.
- (4) Minimize waste generated from raw materials.

### **8-2. Design and Manufacture for Long-term Use**

We request suppliers to design and manufacture their parts or products, purchased by us, for a long-term use. Also, we further request suppliers to design products that are easy for us to repair or replace parts.

### **8-3. Use of Reusable Parts and Recycled Materials**

We request suppliers to maximize the use of reusable parts and recycled materials whenever possible, in order to reduce the environmental load.

### **8-4. Improve Recyclability**

We request suppliers to manufacture their products with easily recyclable materials so that they can be separated/disassembled for reuse as recycled materials.

## **9. Survey Sheet**

Suppliers shall be evaluated based on their answers in the separate Green Procurement Supplier Evaluation List. How to answer and submit shall be explained to each supplier by our Materials Purchasing Division.

## **10. Timing of Survey and Evaluation**

The green procurement survey and evaluation will be performed upon every new business transaction, with specified suppliers, and upon any major changes in the applied laws or regulations. Additionally and in principle, re-survey/re-evaluation will be conducted every three years with all suppliers. Please be noted that the confidentiality of surveys and

evaluations will be treated and maintained according to the confidentiality clause of the sales agreements with our suppliers.

## **11. Revisions and Amendments**

This Green Procurement Guidelines shall be revised and amended when D&M Holdings Inc. deems it necessary or required due to changes in relevant policy promulgated by a governmental or private entity in Japan or abroad, as well as, upon changes in any social environment.

## Appendix 1 Specified Chemical Substances(Category)

### [Prohibited Substances List]

No	Substance Group	Material/Substance Category	Threshold Level
1	Specified Substances by JIG	Asbestos	Intentionally added
2	Specified Substances by JIG	Azocolorants and azodyes which form certain aromatic amines	Intentionally added (Refer to Annex XVII of REACH for application)
3	Specified Substances by JIG	Cadmium/Cadmium Compounds	Any Content greater than 100ppm by weight of homogeneous material, or Intentionally added
4	Specified Substances by JIG	Chromium VI Compounds	Any Content greater than 1000ppm by weight of homogeneous material, or Intentionally added
5	Specified Substances by JIG	Diarsenic Pentoxide	0.1% by weight(1000ppm) of the product
6	Specified Substances by JIG	Diarsenic Trioxide	0.1% by weight(1000ppm) of the product
7	Specified Substances by JIG	Fluorinated Greenhouse Gases (PFC・SF6・HFC)	Intentionally added
8	Specified Substances by JIG	Formaldehyde	Intentionally added Refer to below TABLE 1 for regulatory thresholds for substances in these applications.
9	Specified Substances by JIG	Hexabromocyclododecane (HBCDD)	0.1% by weight(1000ppm) of the product
10	Specified Substances by JIG	Lead/lead Compounds	Any Content greater than 1000ppm by weight of homogeneous material, or Intentionally added 300ppm (only the polyvinyl chloride cable )
11	Specified Substances by JIG	Mercury /Mercury Compounds	Any Content greater than 1000ppm by weight of homogeneous material, or Intentionally added
12	Specified Substances by JIG	Nickel	Intentionally added (Items than can possibly have direct contact with human skin for an extended period of time)
13	Specified Substances by JIG	Ozone Depleting Substances/Isomers	Intentionally added (Any content must be report)
14	Specified Substances by JIG	Perchlorate Compounds	0.000006% by weight(0.006ppm) of the product
15	Specified Substances by JIG	Perfluorooctane Sulfonates (PFOS)	For preparation,50ppm or more by weight,for articles and other,1000ppm or more by weight for coating portions, 1 $\mu$ g/m <sup>2</sup>
16	Specified Substances by JIG	Phenol,2-(2H-benzotriazol-2-yl)-4,6-bis(1,1-dimethylethyl)	Intentionally added
17	Specified Substances by JIG	Phthalates (DEHP・DBP・BBP)	Intentionally added
18	Specified Substances by JIG	Polybrominated Biphenyls (PBBs)	Any Content greater than 1000ppm by weight of homogeneous material, or Intentionally added
19	Specified Substances by JIG	Polybrominated Diphenyl Ethers (PBDEs)	Any Content greater than 1000ppm by weight of homogeneous material, or Intentionally added
20	Specified Substances by JIG	Deca-Bromodiphenylether(Deca-BDE) (PBDE)	Intentionally added
21	Specified Substances by JIG	Polychlorinated Biphenyls (PCBs) and specific substitutes	Intentionally added

**[Prohibited Substances List]** (Continuation)

No	Substance Group	Material/Substance Category	Threshold Level
22	Specified Substances by JIG	Polychlorinated Terphenyls (PCTs)	Intentionally added
23	Specified Substances by JIG	Polychlorinated Naphthalenes	Intentionally added
24	Specified Substances by JIG	Radioactive Substances (Radioactive Isotope)	Intentionally added
25	Specified Substances by JIG	Shortchain Chlorinated Paraffins (C10-C13)	Intentionally added
26	Specified Substances by JIG	Certain Tributyl Tins (TBTs) and Triphenyl Tins (TPTs)	Intentionally added
27	Specified Substances by JIG	Tributyl Tin Oxide (TBTO)	0.1% by weight(1000ppm) of the product

**Table 1**

Phase 1 and Phase 2 Formaldehyde Emission Standards for Hardwood Plywood (HWPW), Particleboard (PB), and Medium Density Fiberboard (MDF)<sup>(1)</sup>

---Phase 1 (P1) and Phase 2 (P2) Emission Standards (ppm)---

Effective Date	HWPW-VC	HWPW-CC	PB	MDF	Thin MDF
1-1-2009	P1:0.98	...	P1:0.18	P1:0.21	P1:0.21
7-1-2009	...	P1:0.08	...	...	...
1-1-2010	P2:0.05	...	...	...	...
1-1-2011	...	...	P2:0.09	P2:0.11	...
1-1-2012	...	...	...	...	P2:0.13
7-1-2012	...	P2:0.05	...	...	...

<sup>(1)</sup> Based on the primary test method [ASTM E 1333-96(2002)] in parts per million (ppm).  
HWPW-VC = veneer core; HWPW-CC = composite core.

**[Controlled Substances List]**

No	Substance Group	Material/Substance Category	Threshold Level
28	Specified Substances by JIG	Beryllium Oxide (BeO)	0.1% by weight(1000ppm) of the product
29	Specified Substances by JIG	Brominated Flame Retardants (other than PBBs, PBDEs or HBCDD)	0.1% by weight(1000ppm) of the product
30	Specified Substances by JIG	Phthalates (DINP·DIDP·DNOP)	0.1% or more by weight(1000ppm) of plasticized material
31	Specified Substances by JIG	(PVC) Polyvinyl Chloride	0.1% by weight(1000ppm) of the product
32	Specified Substances by JIG	Tris (2-chloroethyl) phosphate (TCEP)	0.1% by weight(1000ppm) of the product
33	REACH SVHC	The Candidate List of Substances of Very High Concern(SVHC) for authorization.	0.1% by weight(1000ppm) of the product

## Appendix 2 Specified Chemical Substances Details

(It is based on JIG-101 Ed.2.0)

These lists are not comprehensive; they represent examples of chemicals listing CAS numbers and/or EC numbers if applicable or available.

### 1. Asbestos

Asbestos	CAS Numbers
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

### 2. Azocolorants and azodyes which form certain aromatic amines

Aromatic Amines	CAS Numbers
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
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

Note: The European Community's ban applies to azocolorants and azodyes that by reductive cleavage of azo groups may release one of the above 22 aromatic amines.

**3. Cadmium/Cadmium Compounds**

<b>Cadmium/Cadmium Compounds</b>	<b>CAS Numbers</b>
Cadmium	7440-43-9
Cadmium oxide	1306-19-0
Cadmium sulfide	1306-23-6
Cadmium chloride	10108-64-2
Cadmium sulfate	10124-36-4
Other cadmium compounds	—

**4. Chromium VI Compounds**

<b>Chromium VI Compounds</b>	<b>CAS Numbers</b>
Chromium (VI) oxide	133-82-0
Barium chromate	10294-40-3
Calcium chromate	13765-19-0
Chromium trioxide	133-82-0
Lead (II) chromate	7758-97-6
Sodium chromate	7775-11-3
Sodium dichromate	10588-01-9 / EC Numbers 234-190-3
Strontium chromate	7789-06-2
Potassium dichromate	7778-50-9
Potassium chromate	7789-00-6
Potassium chromate	13530-65-9
Other hexavalent chromium compounds	—

**5. Diarsenic Pentoxide**

<b>Diarsenic Pentoxide</b>	<b>CAS Numbers</b>
Diarsenic Pentoxide	1303-28-2

**6. Diarsenic Trioxide**

<b>Diarsenic Trioxide</b>	<b>CAS Numbers</b>
Diarsenic Trioxide	1327-53-3

**7. Fluorinated Greenhouse Gases – PFC, SF6, HFC**

<b>Fluorinated Greenhouse Gases – PFC, SF6, HFC</b>	<b>CAS Numbers</b>
Carbon tetrafluoride (Perfluoromethane)	75-73-0
Perfluoroethane (Hexafluoroethane)	76-16-4
Perfluoropropane (Octafluoropropane)	76-19-7
Perfluorobutane (Decafluorobutane)	355-25-9

**7. Fluorinated Greenhouse Gases – PFC, SF<sub>6</sub>, HFC** (Continuation)

<b>Fluorinated Greenhouse Gases – PFC, SF<sub>6</sub>, HFC</b>	<b>CAS Numbers</b>
Perfluoropentane (Dodecafluoropentane)	678-26-2
Perfluorohexane (Tetradecafluorohexane)	355-42-0
Perfluorocyclobutane	115-25-3
Sulfur Hexafluoride (SF <sub>6</sub> )	2551-62-4
Trifluoromethane - (HFC-23)	75-46-7
Difluoromethane - (HFC-32)	75-10-5
Methyl fluoride – (HFC-41)	593-53-3
2H,3H-Decafluoropentane – (HFC-43-10mee)	138495-42-8
Pentafluoroethane (HFC-125)	354-33-6
1,1,2,2-Tetrafluoroethane – (HFC-134)	359-35-3
1,1,1,2-Tetrafluoroethane – (HFC-134a)	811-97-2
1,1-Difluoroethane – (HFC-152a)	75-37-6
1,1,2-Trifluoroethane–(HFC-143)	430-66-0
1,1,1-Trifluoroethane – (HFC-143a)	420-46-2
2H-Heptafluoropropane– (HFC-227ea)	431-89-0
1,1,1,2,2,3-hexafluoro-propane ( HFC-236cb)	677-56-5
1,1,1,2,3,3-Hexafluoropropane – (HFC-236ea)	431-63-0
1,1,1,3,3,3-Hexafluoropropane – (HFC-236fa)	690-39-1
1,1,2,2,3-Pentafluoropropane – (HFC-245ca)	679-86-7
1,1,1,3,3-Pentafluoropropane – (HFC-245fa)	460-73-1
1,1,1,3,3-Pentafluorobutane – (HFC-365mfc)	406-58-6

**8. Formaldehyde**

<b>Formaldehyde</b>	<b>CAS Numbers</b>
Formaldehyhde	50-00-0

**9. Hexabromocyclododecane (HBCDD)**

<b>HBCDD and all Major Diastereoisomers</b>	<b>CAS Numbers</b>
Hexabromocyclododecane (HBCDD)	25637-99-4 or 3194-55-6
alpha-hexabromocyclododecane	134237-50-6
beta-hexabromocyclododecane	134237-51-7
gamma-hexabromocyclododecane	134237-52-8

**10. Lead/lead Compounds**

<b>Lead/lead Compounds</b>	<b>CAS Numbers</b>
Lead	7439-92-1
Lead (II) sulfate	7446-14-2
Lead (II) carbonate	598-63-0

**10. Lead/lead Compounds** (Continuation)

<b>Lead/lead Compounds</b>	<b>CAS Numbers</b>
Lead hydrocarbonate	1319-46-6
Lead acetate	301-04-2
Lead (II) acetate, trihydrate	6080-56-4
Lead phosphate	7446-27-7
Lead selenide	12069-00-0
Lead (IV) oxide	1309-60-0
Lead (II,IV) oxide	1314-41-6
Lead (II) sulfide	1314-87-0
Lead (II) oxide	1317-36-8
Lead (II) carbonate basic	1319-46-6
Lead hydroxidcarbonate	1344-36-1
Lead (II) phosphate	7446-27-7
Lead (II) chromate	7758-97-6
Lead (II) titanate	12060-00-3
Lead sulfate, sulphuric acid, lead salt	15739-80-7
Lead sulphate, tribasic	12202-17-4
Lead stearate	1072-35-1
Other lead compounds	—

**11. Mercury /Mercury Compounds**

<b>Mercury /Mercury Compounds</b>	<b>CAS Numbers</b>
Mercury	7439-97-6
Mercuric chloride	33631-63-9
Mercury (II) chloride	7487-94-7
Mercuric sulfate	7783-35-9
Mercuric nitrate	10045-94-0
Mercuric (II) oxide	21908-53-2
Mercuric sulfide	1344-48-5
Other mercury compounds	—

**12. Nickel**

<b>Nickel</b>	<b>CAS Numbers</b>
Nickel	7440-02-0

**13. Ozone Depleting Substances/Isomers\***

<b>Ozone Depleting Substances/Isomers*</b>	<b>CAS Numbers</b>
Trichlorofluoromethane	75-69-4
Dichlorodifluoromethane (CFC12)	75-71-8

## 13. Ozone Depleting Substances/Isomers\* (Continuation)

Ozone Depleting Substances/Isomers*	CAS Numbers
Chlorotrifluoromethane (CFC 13)	75-72-9
Pentachlorofluoroethane (CFC 111)	354-56-3
Tetrachlorodifluoroethane (CFC 112)	76-12-0
Trichlorotrifluoroethane (CFC 113) 1,1,2 Trichloro-1,2,2 trifluoroethane	354-58-5 76-13-1
Dichlorotetrafluoroethane (CFC 114)	76-14-2
Monochloropentafluoroethane (CFC 115)	76-15-3
Heptachlorofluoropropane (CFC 211)	422-78-6 135401-87-5
Hexachlorodifluoropropane (CFC 212)	3182-26-1
Pentachlorotrifluoropropane (CFC 213)	2354-06-5 134237-31-3
Tetrachlorotetrafluoropropane (CFC 214) 1,1,1,3-Tetrachlorotetrafluoropropane	29255-31-0 2268-46-4
Trichloropentafluoropropane (CFC 215) 1,1,1-Trichloropentafluoropropane 1,2,3-Trichloropentafluoropropane	1599-41-3 4259-43-2 76-17-5
Dichlorohexafluoropropane (CFC 216)	661-97-2
Monochloroheptafluoropropane (CFC 217)	422-86-6
Bromochlorodifluoromethane (Halon 1211)	353-59-3
Bromotrifluoromethane (Halon 1301)	75-63-8
Dibromotetrafluoroethane (Halon 2402)	124-73-2
Carbon Tetrachloride (Tetrachloromethane)	56-23-5
1,1,1, - Trichloroethane (methyl chloroform) and its isomers except 1,1,2-trichloroethane	71-55-6
Bromomethane (Methyl Bromide)	74-83-9
Dibromofluoromethane	1868-53-7
Bromodifluoromethane	1511-62-2
Bromofluoromethane	373-52-4
Tetrabromofluoroethane	306-80-9
Tribromodifluoroethane	—
Dibromotrifluoroethane	354-04-1
Bromotetrafluoroethane	124-72-1
Tribromofluoroethane	—
Dibromodifluoroethane	75-82-1
Bromotrifluoroethane	421-06-7
Dibromofluoroethane	358-97-4
Bromodifluoroethane	420-47-3
Bromofluoroethane	762-49-2
Hexabromofluoropropane	—
Pentabromodifluoropropane	—
Tetrabromotrifluoropropane	—
Tribromotetrafluoropropane	—

## 13. Ozone Depleting Substances/Isomers\* (Continuation)

Ozone Depleting Substances/Isomers*	CAS Numbers
Dibromopentafluoropropane	431-78-7
Bromohexafluoropropane	2252-78-0
Pentabromofluoropropane	—
Tetrabromodifluoropropane	—
Tribromotrifluoropropane	—
Dibromotetrafluoropropane	—
Bromopentafluoropropane	460-88-8
Tetrabromofluoropropane	—
Tribromodifluoropropane	70192-80-2
Dibromotrifluoropropane	431-21-0
Bromotetrafluoropropane	679-84-5
Tribromofluoropropane	75372-14-4
Dibromodifluoropropane	460-25-3
Bromotrifluoropropane	421-46-5
Dibromofluoropropane	51584-26-0
Bromodifluoropropane	—
Bromofluoropropane	1871-72-3
Bromochloromethane	74-97-5

\* Note: These materials may contain isomers that are not listed here. Isomers with CAS numbers have been included when available.

## 13. Ozone Depleting Substances - Hydrochlorofluorocarbons/Isomers\*

Ozone Depleting Substances/Hydrochlorofluorocarbons/Isomers*	CAS Numbers
Dichlorofluoromethane (HCFC 21)	75-43-4
Chlorodifluoromethane (HCFC 22)	75-45-6
Chlorofluoromethane (HCFC 31)	593-70-4
Tetrachlorofluoroethane (HCFC 121) 1,1,1,2-tetrachloro-2-fluoroethane (HCFC 121a) 1,1,2,2-tetrachloro-1-fluoroethane	134237-32-4 354-11-0 354-14-3
Trichlorodifluoroethane (HCFC 122) 1,2,2-trichloro-1,1-difluoroethane	41834-16-6 354-21-2
Dichlorotrifluoroethane(HCFC 123) Dichloro-1,1,2-trifluoroethane 1,1-dichloro-2,2,2-trifluoroethane 1,2-dichloro-1,1,2-trifluoroethane (HCFC-123a) 1,1-dichloro-1,2,2-trifluoroethane (HCFC-123b)	34077-87-7 90454-18-5 306-83-2 354-23-4 812-04-4
Chlorotetrafluoroethane (HCFC 124) 2-chloro-1,1,1,2-tetrafluoroethane 1-chloro-1,1,2,2-tetrafluoroethane (HCFC 124a)	63938-10-3 2837-89-0 354-25-6
Trichlorofluoroethane (HCFC 131) 1-Fluoro-1,2,2-trichloroethane 1,1,1-trichloro-2-fluoroethane (HCFC131b)	27154-33-2;(134237-34-6) 359-28-4 811-95-0

## 13. Ozone Depleting Substances - Hydrochlorofluorocarbons/Isomers\* (Continuation)

Ozone Depleting Substances/Hydrochlorofluorocarbons/Isomers*	CAS Numbers
1-Chloro-1-fluoroethane (HCFC-151)	1615-75-4
Dichlorodifluoroethane (HCFC 132) 1,2-dichloro-1,1-difluoroethane (HCFC 132b) 1,1-dichloro-1,2-difluoroethane (HCFC 132c) 1,1-dichloro-2,2-difluoroethane 1,2-dichloro-1,2-difluoroethane	25915-78-0 1649-08-7 1842-05-3 471-43-2 431-06-1
Chlorotrifluoroethane (HCFC 133) 1-chloro-1,2,2-trifluoroethane 2-chloro-1,1,1-trifluoroethane (HCFC-133a)	1330-45-6 1330-45-6 75-88-7
Dichlorofluoroethane(HCFC 141) 1,1-dichloro-1-fluoroethane (HCFC-141b) 1,2-dichloro-1-fluoroethane	1717-00-6; (25167-88-8) 1717-00-6 430-57-9
Chlorodifluoroethane (HCFC 142) 1-chloro-1,1-difluoroethane (HCFC142b) 1-chloro-1,2-difluoroethane (HCFC142a)	25497-29-4 75-68-3 25497-29-4
Hexachlorofluoropropane (HCFC 221)	134237-35-7
Hexachlorofluoropropane (HCFC 221)	134237-36-8
Tetrachlorotrifluoropropane (HCFC 223)	134237-37-9
Trichlorotetrafluoropropane (HCFC 224)	134237-38-0
Dichloropentafluoropropane (HCFC 225) 2,2-Dichloro-1,1,1,3,3-pentafluoropropane(HCFC 225aa) 2,3-Dichloro-1,1,1,2,3-pentafluoropropane (HCFC 225ba) 1,2-Dichloro-1,1,2,3,3-pentafluoropropane (HCFC 225bb) 3,3-Dichloro-1,1,1,2,2-pentafluoropropane (HCFC 225ca) 1,3-Dichloro-1,1,2,2,3-pentafluoropropane (HCFC 225cb) 1,1-Dichloro-1,2,2,3,3-pentafluoropropane(HCFC 225cc) 1,2-Dichloro-1,1,3,3,3-pentafluoropropane (HCFC 225da) 1,3-Dichloro-1,1,2,3,3-pentafluoropropane (HCFC 225ea) 1,1-Dichloro-1,2,3,3,3-pentafluoropropane(HCFC 225eb)	127564-92-5; (2713-09-9) 128903-21-9 422-48-0 422-44-6 422-56-0 507-55-1 13474-88-9 431-86-7 136013-79-1 111512-56-2
Chlorohexafluoropropane (HCFC 226)	134308-72-8
Pentachlorofluoropropane (HCFC 231)	134190-48-0
Tetrachlorodifluoropropane (HCFC 232)	134237-39-1
Trichlorotrifluoropropane (HCFC 233) 1,1,1-Trichloro-3,3,3-trifluoropropane	134237-40-4 7125-83-9
Dichlorotetrafluoropropane (HCFC 234)	127564-83-4
Chloropentafluoropropane (HCFC 235) 1-Chloro-1,1,3,3,3-pentafluoropropane	134237-41-5 460-92-4
Tetrachlorofluoropropane (HCFC 241)	134190-49-1
Trichlorodifluoropropane (HCFC 242)	134237-42-6
Dichlorotrifluoropropane (HCFC 243) 1,1-dichloro-1,2,2-trifluoropropane 2,3-dichloro-1,1,1-trifluoropropane 3,3-Dichloro-1,1,1-trifluoropropane	134237-43-7 7125-99-7 338-75-0 460-69-5
Chlorotetrafluoropropane (HCFC 244) 3-chloro-1,1,2,2-tetrafluoropropane	134190-50-4 679-85-6
Trichlorofluoropropane (HCFC 251) 1,1,3-trichloro-1-fluoropropane	134190-51-5 818-99-5
Dichlorodifluoropropane (HCFC 252)	134190-52-6

**13. Ozone Depleting Substances - Hydrochlorofluorocarbons/Isomers\*** (Continuation)

Ozone Depleting Substances - Hydrochlorofluorocarbons/Isomers*	CAS Numbers
Chlorotrifluoropropane (HCFC 253) 3-chloro-1,1,1-trifluoropropane (HCFC 253fb)	134237-44-8 460-35-5
Dichlorofluoropropane (HCFC 261) 1,1-dichloro-1-fluoropropane	134237-45-9 7799-56-6
Chlorodifluoropropane (HCFC 262) 2-chloro-1,3-difluoropropane	134190-53-7 102738-79-4
Chlorofluoropropane (HCFC 271) 2-chloro-2-fluoropropane	134190-54-8 420-44-0

\*Note: These materials may contain isomers that are not listed here. Isomers with CAS numbers have been included when available.

**14. Perchlorate Compounds**

Perchlorate Compounds	CAS Numbers
Lithium perchlorate	7791-03-9
Other perchlorate compounds	—

**15. Perfluorooctane Sulfonates (PFOS)**

Perfluorooctane Sulfonates (PFOS)	CAS Numbers
Perfluorooctane Sulfonates (PFOS) C <sub>8</sub> F <sub>17</sub> SO <sub>2</sub> X, where X = OR, NR or other derivative	—

**16. Phenol,2-(2H-benzotriazol-2-yl)-4,6-bis(1,1-dimethylethyl)**

Phenol,2-(2H-benzotriazol-2-yl)-4,6-bis(1,1-dimethylethyl)	CAS Numbers
Phenol,2-(2H-benzotriazol-2-yl)-4,6-bis(1,1-dimethylethyl)	3846-71-7

**17. Phthalates**

Phthalates	CAS Numbers
Butyl benzyl phthalate (BBP)	85-68-7
Dibutylphthalate (DBP)	84-74-2
Bis (2-ethylhexyl) phthalate (DEHP)	117-81-7

**18. Polybrominated Biphenyls (PBBs)\***

Polybrominated Biphenyls (PBBs) *	CAS Numbers
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

**18. Polybrominated Biphenyls (PBBs)\*** (Continuation)

<b>Polybrominated Biphenyls (PBBs) *</b>	<b>CAS Numbers</b>
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
Nonabromobiphenyl	27753-52-2
Decabromobiphenyl	13654-09-6

\* Note: As defined in the EU RoHS Directive 2002/95/EC

**19. Polybrominated Diphenyl Ethers (PBDEs)\***

<b>Polybrominated Diphenyl Ethers (PBDEs)</b>	<b>CAS Numbers</b>
Bromodiphenyl ether	101-55-3
Dibromodiphenyl ether	2050-47-7
Tribromodiphenyl ether	49690-94-0
Tetrabromodiphenyl ether	40088-47-9
Pentabromodiphenyl ether (note: Commercially available PeBDPO is a complex reaction mixture containing a variety of brominated diphenyloxides).	32534-81-9 (CAS number used for commercial grades of PeBDPO)
Hexabromodiphenyl ether	36483-60-0
Heptabromodiphenyl ether	68928-80-3
Octabromodiphenyl ether	32536-52-0
Octabromodiphenyl ether	63936-56-1
Decabromodiphenyl ether	1163-19-5

\* Note: As defined in the EU RoHS Directive 2002/95/EC

**21. Polychlorinated Biphenyls (PCBs) and specific substitutes**

<b>Polychlorinated Biphenyls (PCBs)</b>	<b>CAS Numbers</b>
Polychlorinated Biphenyls (all isomers and congeners)	1336-36-3
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

**22. Polychlorinated Terphenyls (PCTs)**

<b>Polychlorinated Terphenyls (PCTs)</b>	<b>CAS Numbers</b>
Polychlorinated Terphenyls (all isomers and congeners)	61788-33-8

**23. Polychlorinated Naphthalenes**

Polychlorinated Naphthalenes	CAS Numbers
Polychlorinated Naphthalenes	70776-03-3
Other polychlorinated Naphthalenes	—

**24. Radioactive Substances (Radioactive Isotope)**

Radioactive Substances	CAS Numbers
Uranium-238	7440-61-1
Radon	10043-92-2
Americium-241	14596-10-2
Thorium-232	7440-29-1
Cesium (Radioactive Isotopes only)	7440-46-2 (Cs-137 010045-97-3)
Strontium (Radioactive Isotopes only)	(elemental 7440-24-6) (Sr-90 10098-97-2)
Other radioactive substances	—

Note: Naturally occurring substances have been removed

**25. Shortchain Chlorinated Paraffins (C10-C13)**

Shortchain Chlorinated paraffins (C10-C13)	CAS Numbers
Chlorinated paraffins (C10-13)	85535-84-8

Note: Only short-chain chlorinated paraffins with carbon length of 10-13 atoms are covered

**26. Certain Tributyl Tins (TBTs) and Triphenyl Tins (TPTs)**

Tributyl Tin, Triphenyl Tin	CAS Numbers
Triphenyltin=N, N-dimethyldithiocarbamate	1803-12-9
Triphenyltinfluoride	379-52-2
Triphenyltinacetate	900-95-8
Triphenyltinchloride	639-58-7
Triphenyltinhydroxide	76-87-9
Triphenyltin fattyacid((9-11)salt)	18380-71-7 18380-72-8 47672-31-1 94850-90-5
Triphenyltinchloroacetate	7094-94-2
Tributyltinmethacrylate	2155-70-6
Bis(tributyltin)fumalate	6454-35-9
Tributyltinfluoride	1983-10-4
Bis(tributyltin)2,3-dibromosuccinate	31732-71-5
Tributyltinacetate	56-36-0
Tributyltinlaurate	3090-36-6
Bis(tributyltin)phthalate	4782-29-0

**26. Certain Tributyl Tins (TBTs) and Triphenyl Tins (TPTs)** (Continuation)

<b>Tributyl Tin, Triphenyl Tin</b>	<b>CAS Numbers</b>
Copolymer of alkyl(c=8) acrylate, methyl methacrylate and tributyltin methacrylate	67772-01-4
Tributyltinsulfamate	6517-25-5
Bis(tributyltin)maleate	14275-57-1
Tributyltinchloride	1461-22-9 7342-38-3
Tributyltin cyclopentane carbonate=mixture	85409-17-2
Tributyltin-1, 2,3,4,4a, 4b, 5,6,10,10a-decahydro-7-isopropyl-1, 4a-dimethyl-1-phenanthrenecarboxylatemix	26239-64-5

**27. Tributyl Tin Oxide**

<b>Tributyl Tin Oxide</b>	<b>CAS Numbers</b>
Bis(tri-n-butyltin) oxide	56-35-9

**28. Beryllium Oxide (BeO)**

<b>Beryllium Oxide</b>	<b>CAS Numbers</b>
Beryllium oxide (BeO)	1304-56-9

**29. Brominated Flame Retardants (other than PBBs, PBDEs or HBCDD)**

<b>Brominated Flame Retardants (other than PBBs, PBDEs or HBCDD)</b>	<b>CAS Numbers</b>
Brominated flame retardant which comes under notation of ISO 1043-4 code number FR(14) [Aliphatic/alicyclic brominated compounds]	—
Brominated flame retardant which comes under notation of ISO 1043-4 code number FR(15) [Aliphatic/alicyclic brominated compounds in combination with antimony compounds]	—
Brominated flame retardant which comes under notation of ISO 1043-4 code number FR(16) [Aromatic brominated compounds excluding brominated diphenyl ether and biphenyls]	—
Brominated flame retardant which comes under notation of ISO 1043-4 code number FR(17) [Aromatic brominated compounds excluding brominated diphenyl ether and biphenyls] in combination with antimony compounds]	—
Brominated flame retardant which comes under notation of ISO 1043-4 code number FR(22) [Aliphatic/alicyclic chlorinated and brominated compounds]	—
Brominated flame retardant which comes under notation of ISO 1043-4 code number FR(42) [Brominated organic phosphorus compounds]	—
Poly(2,6-dibromo-phenylene oxide)	69882-11-7
Tetra-decabromo-diphenoxy-benzene	58965-66-5
1,2-Bis(2,4,6-tribromo-phenoxy) ethane	37853-59-1

**29. Brominated Flame Retardants (other than PBBs, PBDEs or HBCDD)** (Continuation)

<b>Brominated Flame Retardants (other than PBBs, PBDEs or HBCDD)</b>	<b>CAS Numbers</b>
3,5,3',5'-Tetrabromo-bisphenol A (TBBA)	79-94-7
TBBA, unspecified	30496-13-0
TBBA-epichlorhydrin oligomer	40039-93-8
TBBA-TBBA-diglycidyl-ether oligomer	70682-74-5
TBBA carbonate oligomer	28906-13-0
TBBA carbonate oligomer, phenoxy end capped	94334-64-2
TBBA carbonate oligomer, 2,4,6-tribromo-phenol terminated	71342-77-3
TBBA-bisphenol A-phosgene polymer	32844-27-2
Brominated epoxy resin end-capped with tribromophenol	139638-58-7
Brominated epoxy resin end-capped with tribromophenol	135229-48-0
TBBA-(2,3-dibromo-propyl-ether)	21850-44-2
TBBA bis-(2-hydroxy-ethyl-ether)	4162-45-2
TBBA-bis-(allyl-ether)	25327-89-3
TBBA-dimethyl-ether	37853-61-5
Tetrabromo-bisphenol S	39635-79-5
TBBS-bis-(2,3-dibromo-propyl-ether)	42757-55-1
2,4-Dibromo-phenol	615-58-7
2,4,6-tribromo-phenol	118-79-6
Pentabromo-phenol	608-71-9
2,4,6-Tribromo-phenyl-allyl-ether	3278-89-5
Tribromo-phenyl-allyl-ether, unspecified	26762-91-4
Bis(methyl)tetrabromo-phthalate	55481-60-2
Bis(2-ethylhexyl)tetrabromo-phthalate	26040-51-7
2-Hydroxy-propyl-2-(2-hydroxy-ethoxy)-ethyl-TBP	20566-35-2
TBPA, glycol-and propylene-oxide esters	75790-69-1
N,N'-Ethylene -bis-(tetrabromo-phthalimide)	32588-76-4
Ethylene-bis(5,6-dibromo-norbornane-2,3-dicarboximide)	52907-07-0
2,3-Dibromo-2-butene-1,4-diol	3234-02-4
Dibromo-neopentyl-glycol	3296-90-0
Dibromo-propanol	96-13-9
Tribromo-neopentyl-alcohol	36483-57-5
Poly tribromo-styrene	57137-10-7
Tribromo-styrene	61368-34-1
Dibromo-styrene grafted PP	171091-06-8
Poly-dibromo-styrene	31780-26-4
Bromo-/Chloro-paraffins	68955-41-9
Bromo-/Chloro-alpha-olefin	82600-56-4
Vinylbromide	593-60-2
Tris-(2,3-dibromo-propyl)-isocyanurate	52434-90-9

**29. Brominated Flame Retardants (other than PBBs, PBDEs or HBCDD)** (Continuation)

<b>Brominated Flame Retardants (other than PBBs, PBDEs or HBCDD)</b>	<b>CAS Numbers</b>
Tris(2,4-Dibromo-phenyl) phosphate	49690-63-3
Tris(tribromo-neopentyl) phosphate	19186-97-1
Chlorinated and brominated phosphate ester	125997-20-8
Pentabromo-toluene	87-83-2
Pentabromo-benzyl bromide	38521-51-6
1,3-Butadiene homopolymer, brominated	68-441-46-3
Pentabromo-benzyl-acrylate, monomer	59447-55-1
Pentabromo-benzyl-acrylate, polymer	59447-57-3
Decabromo-diphenyl-ethane	84852-53-9
Tribromo-bisphenyl-maleinimide	59789-51-4
Brominated trimethylphenyl-lindane	—
Other Brominated Flame Retardants	—
Tetrabromo-cyclo-octane	31454-48-5
1,2-Dibromo-4-(1,2 dibromo-methyl)-cyclo-hexane	3322-93-8
Tetrabromophthalic acid Na salt	25357-79-3
Tetrabromophthalic acid Na salt	632-79-1

**30. Phthalates**

<b>Phthalates</b>	<b>CAS Numbers</b>
1,2-Benzenedicarboxylic acid diisodecyl ester (DIDP)	26761-40-0 68515-49-1
Diisononyl phthalate (DINP)	28553-12-0 68515-48-0
Diisononyl phthalate (DINP)	117-84-0

**31. Polyvinyl Chloride (PVC)**

<b>Polyvinyl Chloride</b>	<b>CAS Numbers</b>
Polyvinyl chloride (PVC)	9002-86-2

**32. Tris (2-chloroethyl) phosphate (TCEP)**

<b>Tris (2-chloroethyl)phosphate</b>	<b>CAS Numbers</b>
Tris (2-chloroethyl)phosphate (TCEP)	115-96-8

## Appendix 3 Regulation List

The follow table shows law and regulation related to “Banned substances” and “Controlled substances” and some examples of the uses of those substances.

### Restricted substance by regulation

Substance/ Category	Key Legal and Regulatory or industry standard/ agreement citation	Examples of Use
Asbestos	<ul style="list-style-type: none"> <li>•Annex X VII of REACH Regulation (EC) No 552/2009</li> <li>•EU Directive 91/339/EEC</li> <li>•US TSCA</li> <li>•Swiss Ordinance on Reduction of Risk from Chemical Products</li> </ul>	Brake lining pad, insulator, filler, abrasive, insulator, filler, pigment, paint, talc, adiabatic material
Azocolourants and azodyes which form certain aromatic amines	<ul style="list-style-type: none"> <li>•Annex X VII of REACH Regulation (EC) No 552/2009</li> <li>•Directive 2002/61/EC</li> <li>•EU Directive 2003/03/EEC</li> </ul>	Pigment, dyes, colorants
Cadmium/cadmium compounds	<ul style="list-style-type: none"> <li>•Annex X VII of REACH Regulation (EC) No 552/2009</li> <li>•EU Directive 2002/95/EC</li> <li>•China MII Methods</li> <li>•Korea RoHS</li> <li>•Japan J-MOSS</li> <li>•US/CA SB-20/50</li> </ul> <p>(Batteries)</p> <ul style="list-style-type: none"> <li>•Swiss Ordinance on Reduction of Risk from Chemical Products</li> <li>•EU Directive 2006/66/EC</li> </ul>	<p>Pigment, anti-corrosion surface treatment, electric and electronic materials, optical material, stabilizer, plating, pigment for resin, fluorescent, electrode, solder, electric contact, contact point, zinc plating, stabilizer for PVC</p> <p>batteries</p>
Chromium VI compounds	<ul style="list-style-type: none"> <li>•EU Directive 2002/95/EC</li> <li>•China MII Methods</li> <li>•Korea RoHS</li> <li>•Japan J-MOSS</li> <li>•US/CA SB-20/50</li> </ul>	pigment, paint, ink, catalyst, plating, anti-corrosion surface treatment, dye, paint dryer, surface treatment, chromate treatment, paints adhesion enhancement, anti-corrosion
Diarsenic Prntaoxide	<ul style="list-style-type: none"> <li>•Article 33 and 7.2 of REACH Regulation (EC) No 1907/2006</li> </ul>	glass
Diarsenic Trioxide	<ul style="list-style-type: none"> <li>•Article 33 and 7.2 of REACH Regulation (EC) No 1907/2006</li> </ul>	glass
Fluorinated greenhouse gases •Perfluorocarbon(PFC) •Sulfurhexafluoride(SF6) •Hydrofluorocarbon(HFC)	<ul style="list-style-type: none"> <li>•EU Reg. No. 842/2006</li> <li>•Austrian Ordinance by the Federal Minister for Agriculture, Forestry, Environment and Water Management on Bans and Restrictions for Partly Fluorinated and Fully Fluorinated Hydrocarbons and Sulphur Hexafluoride</li> </ul>	(Intentionally added) Refrigerants, blowing agents, extinguishing agents, cleaning agents, insulating media, caustic gas
Formaldehyde	<ul style="list-style-type: none"> <li>•US/CA CARB Rule</li> <li>•Germany; Chemicals Prohibition Ordinance</li> <li>•Denmark; Folmalin regulation</li> </ul>	(Intentionally added) stereo cabinets, speaker system

## Restricted substance by regulation (Continuation)

Substance/ Category	Key Legal and Regulatory or industry standard/ agreement citation	Examples of Use
Hexabromocyclododecane and all major diastereoisomers	<ul style="list-style-type: none"> <li>• Article 33 and 7.2 of REACH Regulation (EC) No 1907/2006</li> </ul>	<p>(0.1% by weight(1000ppm) of the product)</p> <p>Flame retardant mainly used for expanded polystyrene and some types of fiber</p>
Lead/lead compounds	<ul style="list-style-type: none"> <li>• EU Directive 2002/95/EC</li> <li>• China MII Methods</li> <li>• Korea RoHS</li> <li>• Japan J-MOSS</li> <li>• US/CA SB-20/50</li> </ul> <p>(toy electronic product)</p> <ul style="list-style-type: none"> <li>• U.S. Consumer Product Safety Improvement Act (Cables/cords)</li> <li>• US/CA Proposition 65 Case law (batteries)</li> <li>• EU Directive 2006/66/EC</li> </ul>	<p>rubber hardener, pigment, paint, lubricant, plastic stabilizer, materials for battery, free-machining alloy, free-cutting steels, optical materials, X-ray shielding in CRT glass, electrical solder material, mechanical solder materials, curing agent, vulcanizing agent, ferroelectrics, resin stabilizer, plating, metal alloy, resin additive</p> <p>toy electronic product</p> <p>Cables/cords</p> <p>batteries</p>
Mercury/mercury compounds	<ul style="list-style-type: none"> <li>• Vermont act relating to comprehensive management of exposure to mercury</li> <li>• Rhode Island General Laws 23-24.9 and amendment of 2007</li> <li>• Louisiana Mercury Risk Reduction Act 2002/95/EC</li> <li>• Annex X VII of REACH Regulation (EC) No 552/2009</li> <li>• China MII Methods</li> <li>• Korea RoHS</li> <li>• Japan J-MOSS</li> <li>• US/CA SB-20/50</li> </ul> <p>(batteries)</p> <ul style="list-style-type: none"> <li>• New York : Battery reduction and elimination</li> <li>• N.Y. Env'tl. Conserv. § 27-0719</li> <li>• Taiwan Restrictions on the Manufacture, Import, and Sale of Dry Cell Batteries</li> <li>• China QZHG 1997 No. 4: Regulation on mercury content limitation for batteries</li> <li>• Korea: Law on quality management and control of safety of industrial products Battery regulation</li> <li>• 2006/66/EC</li> </ul>	<p>fluorescent bulb, contact point material, pigment, anti-corrosion, switches, high-efficiency phosphor, antibacterial treatment</p> <p>batteries</p>
Nickel	<ul style="list-style-type: none"> <li>• Annex X VII of REACH Regulation (EC) No 552/2009</li> <li>• EU Directive 94/27/EC</li> </ul>	<p>Stainless steel, plating; Example application for prolonged skin contact is an ear bud (headphone)</p>
Ozone Depleting Substances	<ul style="list-style-type: none"> <li>• Montreal Protocol</li> <li>• EU EC No. 2037/2000</li> <li>• US Clean Air Act</li> </ul>	<p>refrigerant, foaming agent, extinguishant, solvent cleaner</p>

## Restricted substance by regulation (Continuation)

Substance/ Category	Key Legal and Regulatory or industry standard/ agreement citation	Examples of Use
Perchlorates	<ul style="list-style-type: none"> <li>• US/CA DTSC Rulemaking</li> </ul>	Coin cell batteries
Perfluorooctane sulfonate	<ul style="list-style-type: none"> <li>• Annex X VII of REACH Regulation (EC) No 552/2009</li> <li>• 2006/122/EC</li> <li>• Canadian Environmental Protection Act SOR/SOR/2008-178</li> </ul>	antistatic agent for films and plastics
Phenols,2-(2H-benzotriazol-2-yl)-4,6-bis(1,1-dimethylethyl)	<ul style="list-style-type: none"> <li>• Japan Law concerning the evaluation of chemical substances</li> </ul>	Adhesives, paints, printing inks, plastics, inked ribbons, putty, caulking or sealing fillers
Phthalates (DEHP•DBP•BBP)	<ul style="list-style-type: none"> <li>• Article 33 and 7.2 of REACH Regulation (EC) No 1907/2006</li> <li>• EU Directive 2005/84/EC</li> </ul>	plasticizer, dye, pigment, paint, ink, adhesive, lubricant
Polybrominated Biphenyls(PBBs)	<ul style="list-style-type: none"> <li>• EU Directive 2002/95/EC</li> <li>• China MII Methods</li> <li>• Korea RoHS</li> <li>• Japan J-MOSS</li> </ul>	Flame retardant
Polybrominated Diphenylethers(PBDEs)	<ul style="list-style-type: none"> <li>• EU Directive 2002/95/EC</li> <li>• China MII Methods</li> <li>• Korea RoHS</li> <li>• Japan J-MOSS</li> </ul>	Flame retardant
Deca-Bromodiphenylether (Deca-BDE)	Maine: Title 38 §1609 Restrictions on sale and distribution of brominated flame retardants	Flame retardant
Polychlorinated Biphenyls(PCBs) and specific substitutes	<ul style="list-style-type: none"> <li>• Japan Law concerning the evaluation of chemical substances</li> <li>• Annex X VII of REACH Regulation (EC) No 552/2009</li> <li>• US TSCA</li> </ul>	insulation oil, lubricant oil, electrical insulation medium, solvent, electrolytic solution; Plasticizers, fire retardants, coatings for electrical wire and cable, dielectric sealants
Polychlorinated Terphenyls(PCTs)	<ul style="list-style-type: none"> <li>• Japan Law concerning the evaluation of chemical substances</li> <li>• Annex X VII of REACH Regulation (EC) No 552/2009</li> <li>• US TSCA</li> </ul>	
Polychlorinated Naphthalenes (more than 3 chlorine atoms)	<ul style="list-style-type: none"> <li>• Japan Law concerning the evaluation of chemical substances</li> </ul>	lubricant, paint, stabilizer (electric characteristic, flame-resistant, water-resistant) insulator, flame retardant
Radioactive substances(TCEP)	<ul style="list-style-type: none"> <li>• EU-D 96/29/Euratom</li> <li>• Japan Law for the Regulation of Nuclear Source Material, Nuclear Fuel Material, and Reactors</li> <li>• 1986; US NRC</li> </ul>	insulation oil, lubricant oil, electrical insulation medium, solvent, electrolytic solution; Plasticizers, fire retardants, coatings for electrical wire and cable, dielectric sealants

**Restricted substance by regulation** (Continuation)

Substance/ Category	Key Legal and Regulatory or industry standard/ agreement citation	Examples of Use
Shortchain Chlorinated Paraffins (C10-C13)	<ul style="list-style-type: none"> <li>• Article 33 and 7.2 of REACH Regulation (EC) No 1907/2006</li> <li>• Norway Product Regulations FOR-2004-06-01-922</li> <li>• Swiss Ordinance on Reduction of Risk from Chemical Products</li> </ul>	plasticizer for PVC, flame retardant
Certain Tributyl Tin(TBT) and Triphenyl Tin(TPT) compounds	<ul style="list-style-type: none"> <li>• Japan Law concerning the evaluation of chemical substance</li> </ul>	Stabilizer, antioxidant, antibacterial and antifungal agents, antifoulant, antiseptic, anti-fungal agent, paint, pigment, antistaining
Tributyl Tin Oxide(TBTO)	<ul style="list-style-type: none"> <li>• Japan Law concerning the evaluation of chemical substances</li> <li>• Article 33 and 7.2 of REACH Regulation (EC) No 1907/2006</li> </ul>	antiseptic, antifungal agent, paint, pigment, antistaining, refrigerant, foaming agent, extinguishant, solvent cleaner
Beryllium Oxide	<ul style="list-style-type: none"> <li>• DIGITALEUROPE(3)/CECED/AeA (4)/ EERA guidance</li> </ul>	ceramics
Brominated flame retardants (other than PBBs, PBDEs or HBCDD)	<ul style="list-style-type: none"> <li>• DIGITALEUROPE(3)/CECED/AeA (4)/ EERA guidance</li> </ul>	flame retardant, printed wiring board laminate, connectors, package molding sealing
Phthalates (DINP•DIDP•DNOP)	<ul style="list-style-type: none"> <li>• EU Directive 2005/84/EC; Consumer Product Safety Improvement Act</li> </ul>	plasticizer, dye, pigment, paint, ink, adhesive, lubricant
Polyvinyl Chloride	<ul style="list-style-type: none"> <li>• IEEE1680 (EPEAT: Electronic Product Environmental Assessment Tool)</li> </ul>	Insulator, chemical resistance, transparency, sheath material
Tris(2-chloroethyl) phosphate	<ul style="list-style-type: none"> <li>• Annex X VIII of REACH Regulation (EC) No 552/2009</li> </ul>	Flame retardant

## Revision history

Revision date	Version	Changes
May 31, 2004	1.0	-
February 1, 2007	1.2	<ul style="list-style-type: none"> <li>Revised "D&amp;M Group" to "D&amp;M Holdings, Inc."</li> <li>Revised specified chemical substances given in paragraph 6 of this Guideline to conform to those of "Survey Substance List" given in SGSSI's "Material Composition Survey and Response Manual".</li> <li>Added in paragraph 5.1 "to gain ISO14001 or ISO14001 conforming management systems by 2008" and deleted "Proposition 65" from paragraph 5.1 of this Guideline.</li> <li>Revised Appendix 1 for RoHS exemptions</li> <li>Revised Appendix 2 for Lead-free soldering.</li> </ul>
June 30, 2008	1.3	<ul style="list-style-type: none"> <li>Revised Appendix 1 for RoHS exemptions</li> </ul>
October 7, 2009	1.4	<ul style="list-style-type: none"> <li>&lt;Applied company&gt;company changed to Brand Group Japan base on D&amp;M Organization change.</li> <li>Deleted "Appendix1 EU RoHS Exemption"</li> <li>Deleted "Appendix2 Lead-free Solder"</li> <li>Added "Appendix 1:Prohibited Substances List and Controlled Substances List"</li> <li>"5.Evaluation and Survey" :deleted "Car NOx &amp; PM Law" and "Regulations on diesel vehicles (ordinances)", added "REACH Regulation" and "The Law concerning the Examination and Regulation of Manufacture etc. of Chemical Substances"</li> <li>Added "5.3 Surveyed items"</li> <li>Added "Appendix 2 Specified Chemical Substances Details"</li> <li>Added "Appendix 3 Regulation List"</li> </ul>

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