

Green Procurement Guidelines

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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.

July 2011

D&M Holdings, Inc.

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.

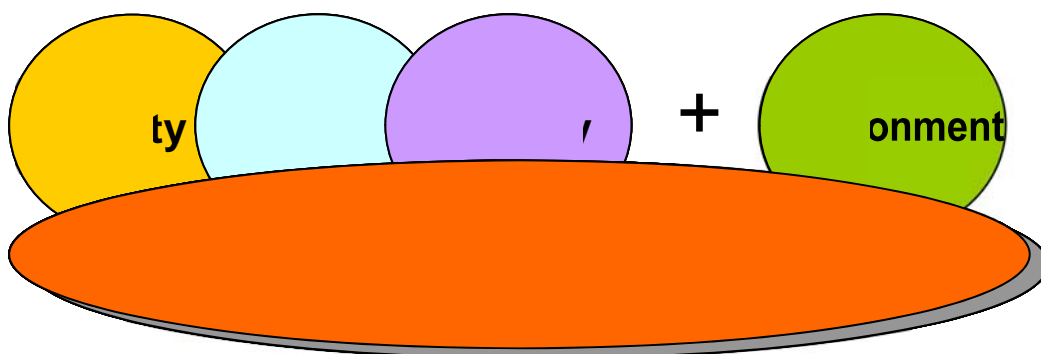
2. Scope

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

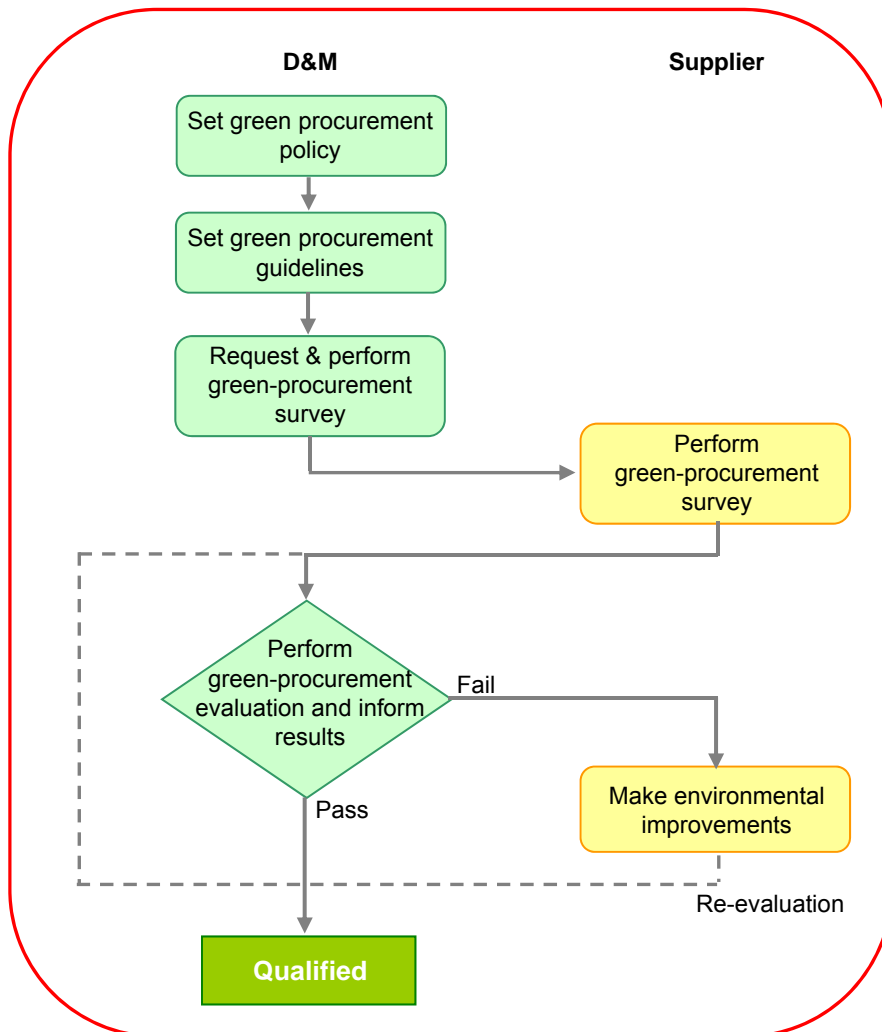
3. Green Procurement Policy

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

Each supplier should continually obtain the latest information on related domestic and overseas laws and ordinances and comply with them.

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.

- 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.

5.4 Requirements to our supplier on the survey data of Specified Chemical Substances

- The survey data should be kept for a required period by law and ordinance.
- Whenever the survey data which each supplier has already provided us needs to be revised, the revised data should be provided.

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*² 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.

*²: " Measurement method for restricted substances specified in the RoHS Directive "

Refer to the measurement method in accordance with IEC 62321 or the equivalent with the same or higher accuracy.

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	0.003% by weight (30ppm) of the finished textile/leather product and packaging item *1
3	Specified Substances by JIG	Cadmium/Cadmium Compounds	0.01% by weight(100ppm) of homogeneous material
			0.01% by weight (100ppm) of the sum of Cd, Hg, Pb & CrVI per packaging item *2
			0.0005% by weight (5ppm) of battery *3
4	Specified Substances by JIG	Chromium VI Compounds	0.1% by weight(1000ppm) of homogeneous material
			0.01% by weight (100ppm) of the sum of Cd, Hg, Pb & CrVI per packaging item *2
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.
			0.0075% by weight (75ppm) of textile item
9	Specified Substances by JIG	Hexabromocyclododecane (HBCDD) and all major diastereoisomers)	0.1% by weight(1000ppm) of the product and packaging item
10	Specified Substances by JIG	Lead/lead Compounds	0.1% by weight (1 000ppm) of homogeneous materials
			0.01% by weight (100ppm) of the sum of Cd, Hg, Pb & CrVI per packaging item *2
			0.03% by weight (300ppm) of the children's product
			0.009% by weight (90ppm) of surface coating (Paint and similar surface coatings of toys and other articles intended for use by children)
			0.03% by weight (300ppm) of surface coating (Cables/cords with thermoset or thermoplastic coatings)
			0.004% by weight (40ppm) of battery
11	Specified Substances by JIG	Mercury /Mercury Compounds	Intentionally added or 0.1% (1000ppm) at homogeneous material
			0.01% by weight (100ppm) of the sum of Cd, Hg, Pb & CrVI per packaging item *2
			0.0001% by weight (1ppm) of battery
12	Specified Substances by JIG	Nickel*5	Intentionally added (Items than can possibly have direct contact with human skin for an extended period of time) *4
13	Specified Substances by JIG	Ozone Depleting Substances/Isomers	Intentionally added

[Prohibited Substances List] (Continuation)

No	Substance Group	Material/Substance Category	Threshold Level
14	Specified Substances by JIG	Perchlorate Compounds	0.0000006% by weight(0.006ppm) of the product
15	Specified Substances by JIG	Perfluorooctane Sulfonates (PFOS)	Intentionally added
16	Specified Substances by JIG	Phenol,2-(2H-benzotriazol-2-yl)-4,6-bis(1,1-dimethylethyl)	Intentionally added
17	Specified Substances by JIG	Selected Phthalates Group 1 (DEHP·DBP·BBP)	0.1% by weight (1000ppm) in plasticized material*6
18	Specified Substances by JIG	Polybrominated Biphenyls (PBBs)	0.1% by weight (1000ppm) in homogeneous material
19	Specified Substances by JIG	Polybrominated Diphenyl Ethers (PBDEs)	0.1% by weight (1000ppm) in homogeneous material
20	Specified Substances by JIG	Polychlorinated Biphenyls (PCBs) and specific substitutes	Intentionally added
21	Specified Substances by JIG	Polychlorinated Terphenyls (PCTs)	Intentionally added
22	Specified Substances by JIG	Polychlorinated Naphthalenes (more than 3 chlorine atoms)	Intentionally added
23	Specified Substances by JIG	Radioactive Substances (Radioactive Isotope)	Intentionally added *4
24	Specified Substances by JIG	Shortchain Chlorinated Paraffins (C10-C13)	0.1% by weight (1000ppm) of the Product
25	Specified Substances by JIG	Tributyl Tin Oxide (TBTO)	Intentionally added or 0.1% by weight (1000ppm) of the product and packaging item
26	Specified Substances by JIG	Dibutyltin (DBT) compounds	0.1% by weight (1000ppm) of tin in a material *7
27	Specified Substances by JIG	Diocetyl tin (DOT) compounds	0.1% by weight (1000ppm) of tin in a material *7
28	Specified Substances by JIG	Dimethyl fumarate(DMF)	0.00001% by weight (0.1ppm) in a material *7
29	Specified Substances by JIG	Tri-substituted organostannic Compounds	0.1% by weight (1000ppm) of tin in a material *7
30	Specified Substances by JIG	Arsenic Compounds	Intentionally added
31	Specified Substances by JIG	Methyl bromide	Intentionally added (Fumigation of wood pallets within EU)

[Controlled Substances List]

No	Substance Group	Material/Substance Category	Threshold Level
32	Specified Substances by JIG	Beryllium Oxide(BeO)	0.1% by weight (1000ppm) of the product
33	Specified Substances by JIG	Brominated Flame Retardants (other than PBBs, PBDEs or HBCDD)	0.1% by weight (1000ppm) of plastic material
			0.09% total bromine content by weight (900 ppm) in the laminate
34	Specified Substances by JIG	Selected Phthalates Group 2 (DINP・DIDP・DNOP)	0.1% by weight (1000ppm) in plasticized material *6
35	Specified Substances by JIG	(PVC) Polyvinyl Chloride	0.1% by weight (1000ppm) of the product and packaging item
36	Specified Substances by JIG	Tris (2-chloroethyl) phosphate (TCEP)	0.1% by weight (1000ppm) of the product
37	REACH SVHC	The Candidate List of Substances of Very High Concern(SVHC) for authorization.	0.1% by weight (1000ppm) of the product (Refer to the following list)

[The Candidate List of SVHC for authorization]

No	Substance Group	Material/Substance Category	Threshold Level
1	REACH SVHC ('08/10/28)	Anthracene	0.1% by weight(1000ppm) of the product
2	REACH SVHC ('08/10/28)	4,4'- Diaminodiphenylmethane(MDA)	0.1% by weight(1000ppm) of the product
3	REACH SVHC ('08/10/28)	Dibutyl phthalate(DBP)	0.1% by weight(1000ppm) of the product
4	REACH SVHC ('08/10/28)	Cobalt dichloride	0.1% by weight (1000ppm) of the product and packaging item
5	REACH SVHC ('08/10/28)	Diarsenic pentaoxide	0.1% by weight (1000ppm) of the product and packaging item
6	REACH SVHC ('08/10/28)	Diarsenic trioxide	0.1% by weight (1000ppm) of the product and packaging item
7	REACH SVHC ('08/10/28)	Sodium dichromate, dehydrate	0.1% by weight(1000ppm) of the product
8	REACH SVHC ('08/10/28)	5-tert-butyl-2,4,6-trinitro-m-xylene (musk xylene)	0.1% by weight(1000ppm) of the product
9	REACH SVHC ('08/10/28)	Bis(2-ethyl(hexyl)phthalate) (DEHP)	0.1% by weight (1000ppm) of the product and packaging item
10	REACH SVHC ('08/10/28)	Hexabromocyclododecane (HBCDD)	0.1% by weight(1000ppm) of the product
11	REACH SVHC ('08/10/28)	Alkanes, C10-13, chloro (Short Chain Chlorinated Paraffins)	0.1% by weight(1000ppm) of the product and packaging item
12	REACH SVHC ('08/10/28)	Tributyl tin oxide(TBTO)	Intentionally added or 0.1% by weight (1000ppm) of the product
13	REACH SVHC ('08/10/28)	Lead hydrogen arsenate	0.1% by weight(1000ppm) of the product
14	REACH SVHC ('08/10/28)	Triethyl arsenate	Intentionally added 0.1% by weight (1000ppm) of the product and packaging item
15	REACH SVHC ('08/10/28)	Benzyl butyl phthalate(BBP)	0.1% by weight(1000ppm) of the product and packaging item

[The Candidate List of SVHC for authorization] (Continuation)

No	Substance Group	Material/Substance Category	Threshold Level
16	REACH SVHC ('10/01/13)	Anthracene oil	0.1% by weight(1000ppm) of the product
17	REACH SVHC ('10/01/13)	Anthraceneoil,anthracene paste ,distn.lights	0.1% by weight(1000ppm) of the product
18	REACH SVHC ('10/01/13)	Anthracene oil, anthracene paste, anthracene fraction	0.1% by weight(1000ppm) of the product
19	REACH SVHC ('10/01/13)	Anthracene oil,anthracene-low	0.1% by weight(1000ppm) of the product
20	REACH SVHC ('10/01/13)	Anthracene oil,anthracene paste	0.1% by weight(1000ppm) of the product
21	REACH SVHC ('10/01/13)	Pitch, coal tar, high-temperaturere	0.1% by weight(1000ppm) of the product
22	REACH SVHC ('10/01/13)	Aluminosilicate, Refractory Ceramic Fibres	0.1% by weight(1000ppm) of the product
23	REACH SVHC ('10/01/13)	ZirconiaAluminosilicate,Refractory Ceramic Fibres	0.1% by weight(1000ppm) of the product
24	REACH SVHC ('10/01/13)	2,4-Dinitrotoluene	0.1% by weight(1000ppm) of the product
25	REACH SVHC ('10/01/13)	Diisobutyl phthalate(DIBP)	0.1% by weight(1000ppm) of the product and packaging item
26	REACH SVHC ('10/01/13)	Lead chromate	0.1% by weight(1000ppm) of the product
27	REACH SVHC ('10/01/13)	Lead chromate molybdate sulphate red(C.I. Pigment Red 104)	0.1% by weight(1000ppm) of the product
28	REACH SVHC ('10/01/13)	Lead sulfochromate yellow (C.I. Pigment Yellow 34)	0.1% by weight(1000ppm) of the product
29	REACH SVHC ('10/01/13)	Tris(2-chloroethyl) phosphate(TCEP)	0.1% by weight(1000ppm) of the product
30	REACH SVHC ('10/01/13)	Acrylamide	0.1% by weight(1000ppm) of the product
31	REACH SVHC ('10/06/18)	Trichloroethylene	0.1% by weight(1000ppm) of the product
32	REACH SVHC ('10/06/18)	Boric acid	0.1% by weight(1000ppm) of the product
33	REACH SVHC ('10/06/18)	Disodium tetraborate, anhydrous	0.1% by weight(1000ppm) of the product
34	REACH SVHC ('10/06/18)	Tetraboron disodium heptaoxide, hydrate	0.1% by weight (1000 ppm) of the product and packaging item
35	REACH SVHC ('10/06/18)	Sodium chromate	0.1% by weight (1000 ppm) of the product
36	REACH SVHC ('10/06/18)	Potassium chromate	0.1% by weight(1000ppm) of the product
37	REACH SVHC ('10/06/18)	Ammonium dichromate	0.1% by weight (1000 ppm) of the product
38	REACH SVHC ('10/06/18)	Potassium dichromate	0.1% by weight (1000 ppm) of the product

[The Candidate List of SVHC for authorization] (Continuation)

No	Substance Group	Material/Substance Category	Threshold Level
39	REACH SVHC ('10/12/15)	Cobalt(II) sulphate	0.1% by weight(1000ppm) of the product
40	REACH SVHC ('10/12/15)	Cobalt(II) dinitrate	0.1% by weight(1000ppm) of the product
41	REACH SVHC ('10/12/15)	Cobalt(II) carbonate	0.1% by weight(1000ppm) of the product
42	REACH SVHC ('10/12/15)	Cobalt(II) diacetate	0.1% by weight(1000ppm) of the product
43	REACH SVHC ('10/12/15)	2-Methoxyethanol	0.1% by weight(1000ppm) of the product
44	REACH SVHC ('10/12/15)	2-Ethoxyethanol	0.1% by weight(1000ppm) of the product
45	REACH SVHC ('10/12/15)	Chromium trioxide	0.1% by weight(1000ppm) of the product
46	REACH SVHC ('10/12/15)	Chromic acid, Oligomers of chromic acid and dichromic acid,Dichromic acid	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) ⁽¹⁾ ---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	...	...	...

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

Note of Prohibited Substances List and Controlled Substances List

*1 The European Community's ban applies to azocolorants and azodyes that by reductive cleavage of azo groups may release one of the aromatic amines listed in Appendix2 The threshold level given applies to these amines, not to the azocolorants and azodyes.

*2 Shall ensure that the sum of concentration levels of lead, cadmium, mercury and hexavalent chromium present in packaging or packaging components shall not exceed 0.1% by weight (1 000 ppm).

*3 The battery reporting threshold level is based on the strictest known legal requirement. However, for simplification, the same reporting threshold level is for all kind of batteries, even if the underlying legal requirement is only applicable for only one specific battery type.

*4 Regulatory thresholds for substances in these applications are based on emission or exposure limits rather than on the concentration in the product. The regulatory limits are: 1) For Nickel in applications of prolonged skin contact – 0.5 micrograms/sq cm/week per DIN EN 1811; 2) Radioactive substances – a dose rate exceeding 1 μ Sv h⁻¹ at a distance of 0.1m.

Because emission and exposure levels cannot be derived from actual concentrations, a threshold level of “intentionally added” is indicated for reporting. Suppliers may choose to report a default concentration of 0.1% by weight in the product for these substances, in lieu of determining the exact concentrations in their products, to indicate that the substance is known to be present in their product, as the actual concentration in the product is not informative for regulatory compliance assessment.

*5 Nickel must be reported in certain regulated applications where it is likely to result in prolonged skin exposure (e.g. an outer enclosure for a portable electronic product designated to be carried).

*6 The threshold level here is the sum of the phthalate concentrations of the phthalates (identified in the respective Appendix2 tables) in the selected phthalate group designated by the Substance/Category.

*7 Commission Decision 2009/425/EC defines a concentration limit of 0.1% by weight of tin in the article or part thereof. Likewise Commission Decision 2009/251/EC define a concentration limit of 0.00001% by weight of DMF in the product or part of the product. Because no legal definition of part is provided in these legislations, the most potentially restrictive concentration limit is not adequately specified. Therefore, the concentration limit is applied at the level of material vs. a part to ensure disclosure of the regulated substances for the most basic unit of a part.

Appendix 2 Specified Chemical Substances Details

(It is based on JIG-101 Ed.4.0)

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

Cadmium/Cadmium Compounds	CAS Numbers
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

Chromium VI Compounds	CAS Numbers
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
Lead chromate molybdate sulphate red	12656-85-8
Lead sulfochromate yellow	1344-37-2
Sodium chromate	7775-11-3
Sodium dichromate	10588-01-9
Strontium chromate	7789-06-2
Potassium dichromate	7778-50-9
Potassium chromate	7789-00-6
Zinc chromate	13530-65-9
Other hexavalent chromium compounds	—

5. Diarsenic Pentoxide

Diarsenic Pentoxide	CAS Numbers
Diarsenic Pentoxide	1303-28-2

6. Diarsenic Trioxide

Diarsenic Trioxide	CAS Numbers
Diarsenic Trioxide	1327-53-3

7. Fluorinated Greenhouse Gases***Perfluorocarbon(PFC), Sulfur hexafluoride(SF6) & Hydrofluorocarbons(HFC)**

Fluorinated Greenhouse Gases	CAS Numbers
Tetrafluoromethane (Carbon tetrafluoride PFC-14)	75-73-0
Hexafluoroethane (PFC-116)	76-16-4
Octafluoropropane (PFC-218)	76-19-7
Decafluorobutane (PFC-31-10)	355-25-9
Dodecafluoropentane (PFC-41-12)	678-26-2
Tetradecafluorohexane (PFC-51-14)	355-42-0
Octafluorocyclobutane (PFC-c318)	115-25-3
Sulfur Hexafluoride (SF6)	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

* Note: The reporting requirement refers to the sum of just those substances listed above

8. Formaldehyde

Formaldehyde	CAS Numbers
Formaldehyhde	50-00-0

9. Hexabromocyclododecane (HBCDD) *

HBCDD and all Major Diastereoisomers	CAS Numbers
Hexabromocyclododecane (HBCDD)	25637-99-4 and 3194-55-6
alpha-hexabromocyclododecane	134237-50-6
Beta-hexabromocyclododecane	134237-51-7
gamma-hexabromocyclododecane	134237-52-8

* Note: The reporting requirement refers to the sum of just those substances listed above

10. Lead/lead Compounds

Lead/lead Compounds	CAS Numbers
Lead	7439-92-1
Lead (II) sulfate	7446-14-2
Lead (II) carbonate	598-63-0
Lead (II) chromate	7758-97-6
Lead chromate molybdate sulphate red	12656-85-8
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 sulfochromate yellow	1344-37-2
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

Mercury /Mercury Compounds	CAS Numbers
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

Nickel	CAS Numbers
Nickel	7440-02-0

13. Ozone Depleting Substances*

Chlorofluorocarbons (CFC), Halons, Hydrobromofluorocarbons (HBFC), Hydrochlorofluorocarbons (HCFC) and others

Ozone Depleting Substances	CAS Numbers
Trichlorofluoromethane(CFC-11)	75-69-4
Dichlorodifluoromethane (CFC12)	75-71-8
Chlorotrifluoromethane (CFC 13)	75-72-9
Pentachlorofluoroethane (CFC 111)	354-56-3
Tetrachlorodifluoroethane (CFC 112)	76-12-0
1,1,2,2-Tetrachloro-1,2-difluoroethane (CFC-112)	76-12-0
1,1,1,2-Tetrachloro-2,2-difluoroethane (CFC-112a)	76-11-9
Trichlorotrifluoroethane (CFC-113)	76-13-1
1,1,2-Trichloro-1,2,2 trifluoroethane (CFC-113)	76-13-1
1,1,1-Trichloro-2,2,2 trifluoroethane (CFC-113a)	354-58-5
Dichlorotetrafluoroethane (CFC-114)	76-14-2
Monochloropentafluoroethane (CFC-115)	76-15-3
Heptachlorofluoropropane (CFC-211)	422-78-6
1,1,1,2,2,3,3-Heptachloro-3-fluoropropane (CFC-211aa)	135401-87-5
1,1,1,2,3,3,3-Heptachloro-2-fluoropropane (CFC-211ba)	422-78-6
Hexachlorodifluoropropane (CFC-212)	422-81-1
Pentachlorotrifluoropropane (CFC 213)	3182-26-1
Tetrachlorotetrafluoropropane (CFC 214)	2354-06-5
1,2,2,3-Tetrachloro-1,1,3,3-tetrafluoropropane (CFC-214aa)	134237-31-3
1,1,1,3-Tetrachloro-2,2,3,3-tetrafluoropropane (CFC-214cb)	—
Trichloropentafluoropropane (CFC-215)	29255-31-0
1,2,2-Trichloropentafluoropropane (CFC-215aa)	2268-46-4
1,2,3-Trichloropentafluoropropane (CFC-215ba)	—
1,1,2-Trichloropentafluoropropane (CFC-215bb)	—
1,1,3-Trichloropentafluoropropane (CFC-215ca)	—
1,1,1-Trichloropentafluoropropane (CFC-215cb)	4259-43-2
Dichlorohexafluoropropane (CFC 216)	661-97-2
Monochloroheptafluoropropane (CFC 217)	422-86-6
Bromochloromethane (Halon-1011)	74-97-5
Dibromodifluoromethane (Halon-1202)	75-61-6
Bromochlorodifluoromethane (Halon 1211)	353-59-3
Bromotrifluoromethane (Halon 1301)	75-63-8
Dibromotetrafluoroethane (Halon 2402)	124-73-2
Tetrachloromethane (Carbon Tetrachloride)	56-23-5
1,1,1, - Trichloroethane (methyl chloroform)	71-55-6
Bromomethane (Methyl Bromide)	74-83-9
Bromoethane (ethyl bromide)	74-96-4
1-Bromopropane (n-propyl bromide)	106-94-5
Trifluoriodomethane (trifluoromethyl iodide)	2314-97-8
Chloromethane (methyl chloride)	74-87-5
Dibromofluoromethane (HBFC-21 B2)	1868-53-7
Bromodifluoromethane (HBFC-22 B1)	1511-62-2

13. Ozone Depleting Substances* (Continuation)

Ozone Depleting Substances	CAS Numbers
Bromofluoromethane (HBFC-31 B1)	373-52-4
Tetrabromofluoroethane (HBFC-121 B4)	306-80-9
Tribromodifluoroethane (HBFC-122 B3)	—
Dibromotrifluoroethane (HBFC-123 B2)	354-04-1
Bromotetrafluoroethane (HBFC-124 B1)	124-72-1
Tribromofluoroethane (HBFC-131 B3)	—
Dibromodifluoroethane (HBFC-132 B2)	75-82-1
Bromotrifluoroethane (HBFC-133 B1)	421-06-7
Dibromofluoroethane (HBFC-141 B2)	358-97-4
Bromodifluoroethane (HBFC-142 B1)	420-47-3
Bromofluoroethane (HBFC-151 B1)	762-49-2
Hexabromofluoropropane (HBFC-221 B6)	—
Pentabromodifluoropropane (HBFC-222 B5)	—
Tetrabromotrifluoropropane (HBFC-223 B4)	—
Tribromotetrafluoropropane (HBFC-224 B3)	—
Dibromopentafluoropropane (HBFC-225 B2)	431-78-7
Bromohexafluoropropane (HBFC-226 B1)	2252-78-0
Pentabromofluoropropane (HBFC-231 B5)	—
Tetrabromodifluoropropane (HBFC-232 B4)	—
Tribromotrifluoropropane (HBFC-233 B3)	—
Dibromotetrafluoropropane (HBFC-234 B2)	—
Bromopentafluoropropane (HBFC-235 B1)	460-88-8
Tetrabromofluoropropane (HBFC-241 B4)	—
Tribromodifluoropropane (HBFC-242 B3)	70192-80-2
Dibromotrifluoropropane (HBFC-243 B2)	431-21-0
Bromotetrafluoropropane (HBFC-244 B1)	679-84-5
Tribromofluoropropane (HBFC-251 B3)	75372-14-4
Dibromodifluoropropane (HBFC-252 B2)	460-25-3
Bromotrifluoropropane (HBFC-253 B1)	421-46-5
Dibromofluoropropane (HBFC-261 B2)	51584-26-0
Bromodifluoropropane (HBFC-262 B1)	—
Bromofluoropropane (HBFC-271 B1)	1871-72-3
Dichlorofluoromethane (HCFC-21)	75-43-4
Chlorodifluoromethane (HCFC-22)	75-45-6
Chlorofluoromethane (HCFC-31)	593-70-4
Tetrachlorofluoroethane (HCFC-21)	134237-32-4
1,1,2,2-tetrachloro-1-fluoroethane (HCFC-21)	354-14-3
1,1,1,2-tetrachloro-2-fluoroethane (HCFC-21a)	354-11-0
Trichlorodifluoroethane (HCFC-22)	41834-16-6
1,2,2-Trichloro-1,1-difluoroethane (HCFC-122)	354-21-2
1,1,2-Trichloro-1,2-difluoroethane (HCFC-122a)	354-15-4
1,1,1-Trichloro-2,2-difluoroethane (HCFC-122b)	354-12-1

13. Ozone Depleting Substances* (Continuation)

Ozone Depleting Substances	CAS Numbers
Dichlorotrifluoroethane (HCFC-123) 1,1-Dichloro-2,2,2-trifluoroethane (HCFC-123) 1,2-Dichloro-1,1,2-trifluoroethane (HCFC-123a) 1,1-Dichloro-1,2,2-trifluoroethane (HCFC-123b)	34077-87-7 306-83-2 354-23-4 90454-18-5 812-04-4
Chlorotetrafluoroethane (HCFC-124) 2-chloro-1,1,1,2-tetrafluoroethane (HCFC-124) 1-chloro-1,1,2,2-tetrafluoroethane (HCFC 124a)	63938-10-3 2837-89-0 354-25-6
Trichlorofluoroethane (HCFC-131) 1,1,2-Trichloro-2-fluoroethane (HCFC-131) 1,1,2-Trichloro-1-fluoroethane (HCFC-31a) 1,1,1-Trichloro-2-fluoroethane (HCFC-131b)	27154-33-2; (134237-34-6) 359-28-4 811-95-0 2366-36-1
Dichlorodifluoroethane (HCFC 132) 1,2-Dichloro-1,2-difluoroethane (HCFC-132) 1,1-Dichloro-2,2-difluoroethane (HCFC-132a) 1,2-dichloro-1,1-difluoroethane (HCFC-32b) 1,1-dichloro-1,2-difluoroethane (HCFC-32c)	25915-78-0 431-06-1 471-43-2 1649-08-7 1842-05-3
Chlorotrifluoroethane (HCFC-133) 1-Chloro-1,2,2-trifluoroethane (HCFC-133) 2-Chloro-1,1,1-trifluoroethane (HCFC-133a) 1-Chloro-1,1,2-trifluoroethane (HCFC-133b)	1330-45-6 431-07-2 1330-45-6 75-88-7 421-04-5
Dichlorofluoroethane(HCFC-141) 1,2-Dichloro-1-fluoroethane (HCFC-141) 1,1-Dichloro-2-fluoroethane (HCFC-141a) 1,1-Dichloro-1-fluoroethane (HCFC-141b)	1717-00-6; (25167-88-8) 430-57-9 430-53-5 1717-00-6
Chlorodifluoroethane (HCFC-142) 2-Chloro-1,1-Difluoroethane (HCFC-142) 1-Chloro-1,1-difluoroethane (HCFC-142b) 1-Chloro-1,2-difluoroethane (HCFC-142a)	25497-29-4 338-65-8 75-68-3 338-64-7
Chlorofluoroethane (HCFC-151) 1-Chloro-2-fluoroethane (HCFC-151) 1-Chloro-1-fluoroethane (HCFC-151a)	110587-14-9 762-50-5 1615-75-4
Hexachlorofluoropropane (HCFC-221) 1,1,1,2,2,3-Hexachloro-3-fluoropropane (HCFC-221ab)	134237-35-7 29470-94-8 422-26-4
Pentachlorodifluoropropane (HCFC-222) 1,1,1,3,3-pentachloro-2,2-difluoropropane (HCFC-222ca)) 1,2,2,3,3-pentachloro-1,1-difluoropropane (HCFC-222aa)	134237-36-8 422-49-1 422-30-0
Tetrachlorotrifluoropropane (HCFC-223) 1,1,3,3-Tetrachloro-1,2,2-trifluoropropane (HCFC-223ca) 1,1,1,3-Tetrachloro-2,2,3-trifluoropropane (HCFC-223cb)	134237-37-9 422-52-6 422-50-4
Trichlorotetrafluoropropane (HCFC-224) 1,3,3-Trichloro-1,1,2,2-tetrafluoropropane (HCFC-224ca) 1,1,3-Trichloro-1,2,2,3-tetrafluoropropane (HCFC-224cb) 1,1,1-Trichloro-2,2,3,3-tetrafluoropropane (HCFC-224cc)	134237-38-0 422-54-8 422-53-7 422-51-7
Dichloropentafluoropropane (HCFC-25) 2,2-Dichloro-1,1,1,3,3-pentafluoropropane (HCFC-25aa) 2,3-Dichloro-1,1,1,2,3-pentafluoropropane (HCFC-25ba) 1,2-Dichloro-1,1,2,3,3-pentafluoropropane (HCFC-25bb) 3,3-Dichloro-1,1,1,2,2-pentafluoropropane (HCFC-25ca) 1,3-Dichloro-1,1,2,2,3-pentafluoropropane (HCFC-25cb) 1,1-Dichloro-1,2,2,3,3-pentafluoropropane (HCFC-25cc) 1,2-Dichloro-1,1,3,3,3-pentafluoropropane (HCFC-25da) 1,3-Dichloro-1,1,2,3,3-pentafluoropropane (HCFC-25ea) 1,1-Dichloro-1,2,3,3,3-pentafluoropropane (HCFC-25eb)	127564-92-5 128903-21-9 422-48-0 422-44-6 422-56-0 507-55-1 13474-88-9 431-86-7 136013-79-1 111512-56-2
Chlorohexafluoropropane (HCFC-226) 2-Chloro-1,1,1,3,3,3-hexafluoro-propane (HCFC-226da)	134308-72-8 431-87-8

13. Ozone Depleting Substances* (Continuation)

Ozone Depleting Substances	CAS Numbers
Pentachlorofluoropropane (HCFC-231) 1,1,1,2,3-pentachloro-2-fluoro-propane (HCFC-231bb)	134190-48-0 421-94-3
Tetrachlorodifluoropropane (HCFC-232) 1,1,1,3-Tetrachloro-3,3-difluoropropane (HCFC-232fc)	134237-39-1 460-89-9
Trichlorotrifluoropropane (HCFC-233) 1,1,1-Trichloro-3,3,3-trifluoropropane (HCFC-233fb)	134237-40-4 7125-83-9
Dichlorotetrafluoropropane (HCFC-234) 1,2-Dichloro-1,2,3,3-tetrafluoropropane (HCFC-234db)	127564-83-4 425-94-5
Chloropentafluoropropane (HCFC-235) 1-Chloro-1,1,3,3,3-pentafluoropropane (HCFC-235fa)	134237-41-5 460-92-4
Tetrachlorofluoropropane (HCFC-241) 1,1,2,3-Tetrachloro-1-fluoropropane (HCFC-241db)	134190-49-1 666-27-3
Trichlorodifluoropropane (HCFC-242) 1,3,3,Trichloro-1,1-difluoropropane (HCFC-242fa)	134237-42-6 460-63-9
Dichlorotrifluoropropane (HCFC-243) 1,1-Dichloro-1,2,2-trifluoropropane (HCFC-243cc) 2,3-Dichloro-1,1,1-trifluoropropane (HCFC-243db) 3,3-Dichloro-1,1,1-trifluoropropane (HCFC-243fa)	134237-43-7 7125-99-7 338-75-0 460-69-5
Chlorotetrafluoropropane (HCFC-244) 3-Chloro-1,1,2,2-tetrafluoropropane (HCFC-244ca) 1-Chloro-1,1,2,2-tetrafluoropropane (HCFC-244cc)	134190-50-4 679-85-6 421-75-0
Trichlorofluoropropane (HCFC-251) 1,1,3-Trichloro-1-fluoropropane (HCFC-251fb) 1,1,2-Trichloro-1-fluoropropane (HCFC-251dc)	134190-51-5 818-99-5 421-41-0
Dichlorodifluoropropane (HCFC-252) 1,3-Dichloro-1,1-difluoropropane (HCFC-252fb)	134190-52-6 819-00-1
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 (HCFC-261fc) 1,2-Dichloro-2-fluoro-propane (HCFC-261ba)	134237-44-8 7799-56-6 420-97-3
Chlorodifluoropropane (HCFC-262) 1-Chloro-2,2-difluoropropane (HCFC-262ca) 2-Chloro-1,3-difluoropropane (HCFC-262da) 1-Chloro-1,1-difluoropropane (HCFC-262fc)	134190-53-7 420-99-5 102738-79-4 421-02-03
Chlorofluoropropane (HCFC-271) 2-Chloro-2-fluoropropane (HCFC-271ba) 1-Chloro-1-fluoropropane (HCFC-271fb)	134190-54-8 420-44-0 430-55-7

* 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 ₈ F ₁₇ SO ₂ 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. Selected Phthalates Group1 (BBP,DBP,DEHP)

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
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

19. Polybrominated Diphenyl Ethers (PBDEs)

Polybrominated Diphenyl Ethers (PBDEs)	CAS Numbers
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
Nonabromodiphenyl ether	63936-56-1
Decabromodiphenyl ether	1163-19-5

20. Polychlorinated Biphenyls (PCBs) and specific substitutes

Polychlorinated Biphenyls (PCBs)	CAS Numbers
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

21. Polychlorinated Terphenyls (PCTs)

Polychlorinated Terphenyls (PCTs)	CAS Numbers
Polychlorinated Terphenyls (all isomers and congeners)	61788-33-8

22. Polychlorinated Naphthalenes

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

23. 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-137	7440-46-2
Strontium-90	7440-24-6
Other radioactive substances	—

24. Shortchain Chlorinated Paraffins (SCCPs)

Shortchain Chlorinated paraffins (C10-C13)	CAS Numbers
Alkanes, C10-13, chloro	85535-84-8
Alkanes, C10-12, chloro	108171-26-2
Alkanes, C12-13, chloro	71011-12-6
Alkanes, chloro	61788-76-9
Chlorinated polyethylene	64754-90-1
Other Short Chain Chlorinated Paraffins	—

25. Tributyl Tin Oxide

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

26. Dibutyltin Compounds(DBT)

Dibutyltin Compounds	CAS Numbers
Dibutyltin oxide	818-08-6
Dibutyltin diacetate	1067-33-0
Dibutyltin dilaurate	77-58-7
Dibutyltin maleate	78-04-6
Other dibutyltin compounds	—

27. Dioctyltin Compounds(DOT)

Dioctyltin Compounds	CAS Numbers
Dioctyl Tin Oxide	870-08-6
Dioctyltin dilaurate	3648-18-8
Other Dioctyltin compounds	—

28. Dimethyl fumarate(DMF)

Dimethyl fumarate	CAS Numbers
Dimethyl fumarate	624-49-7

29. Tri-substituted Organostannic Compounds

Tri-substituted Organostannic Compounds	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)fumarate	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
Copolymer of alkyl(c=8) acrylate, methyl methacrylate and tributyltin methacrylate	67772-01-4

29. Tri-substituted Organostannic Compounds (Continuation)

Tri-substituted Organostannic Compounds	CAS Numbers
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
Other tri-substituted organostannic compounds	—

30. Arsenic compounds

Arsenic compounds	CAS Numbers
Arsenic	7440-38-2
Chromated copper arsenate(CCA)	37337-13-6
Other arsenic compounds	—

31. Methyl bromide

Methyl bromide	CAS Numbers
Methyl bromide	74-83-9

32. Beryllium Oxide (BeO)

Beryllium Oxide	CAS Numbers
Beryllium oxide (BeO)	1304-56-9

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

Brominated Flame Retardants (other than PBBs, PBDEs or HBCDD)	CAS Numbers
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

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

Brominated Flame Retardants (other than PBBs, PBDEs or HBCDD)	CAS Numbers
Tetra-decabromo-diphenoxy-benzene	58965-66-5
1,2-Bis(2,4,6-tribromo-phenoxy) ethane	37853-59-1
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

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

Brominated Flame Retardants (other than PBBs, PBDEs or HBCDD)	CAS Numbers
Vinylbromide	593-60-2
Tris-(2,3-dibromo-propyl)-isocyanurate	52434-90-9
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
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
Octabromo-1,1,3-trimethyl-1-phenylindane (FR-1808)	155613-93-7
Other Brominated Flame Retardants	—

34. Selected Phthalates Group2 (DIDP,DINP,DNOP)

Phthalates	CAS Numbers
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

35. Polyvinyl Chloride (PVC)

Polyvinyl Chloride	CAS Numbers
Polyvinyl chloride (PVC)	9002-86-2

36. Tris (2-chloroethyl) phosphate (TCEP)

Tris (2-chloroethyl)phosphate	CAS Numbers
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"> •Annex XVII of REACH Regulation •US TSCA •Swiss Ordinance on Reduction of Risk from Chemical Products 	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"> •Annex XVII of REACH Regulation 	Pigment, dyes, colorants
Cadmium/cadmium compounds	<ul style="list-style-type: none"> •Annex XVII of REACH Regulation •EU Directive 2002/95/EC and 2006/618EC •China MII Methods •Korea RoHS •Japan J-MOSS •US/CA SB-20/50 •EU 94/62/EC Directive; Toxics in packaging (TIP) <p>(Batteries)</p> <ul style="list-style-type: none"> •Swiss Ordinance on Reduction of Risk from Chemical Products •EU Directive 2006/66/EC 	<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"> •EU Directive 2002/95/EC and 2006/618EC •Annex XVII of REACH Regulation •China MII Methods •Korea RoHS •Japan J-MOSS •US/CA SB-20/50 •EU 94/62/EC Directive; Toxics in packaging (TIP) 	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"> •Article 33 and 7.2 of REACH Regulation (EC) No 1907/2006 (Candidate list of SVHC for authorization 28.10.2008) 	glass
Diarsenic Trioxide	<ul style="list-style-type: none"> •Article 33 and 7.2 of REACH Regulation (EC) No 1907/2006 (Candidate list of SVHC for authorization 28.10.2008) 	glass
Fluorinated greenhouse gases <ul style="list-style-type: none"> •Perfluorocarbon(PFC) •Sulfurhexafluoride(SF6) •Hydrofluorocarbon(HFC) 	<ul style="list-style-type: none"> •EU Reg. No. 842/2006 	(Intentionally added) Refrigerants, blowing agents, extinguishing agents, cleaning agents, insulating media, caustic gas
Formaldehyde	<p>(Composite wood)</p> <ul style="list-style-type: none"> •US/CA CARB Rule <p>(Textiles)</p> <ul style="list-style-type: none"> •Austria - BGB I 1990/194:1990/194:Formaldehydverordnung, §2, 12/2/1990; •Lithuanian Hygiene Norm HN 96:2000 (Hygiene standards and regulations) 	<p>(Intentionally added) stereo cabinets, speaker system</p> <p>Textiles</p>

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"> •Article 33 and 7.2 of REACH Regulation (EC) No 1907/2006 (Candidate list of SVHC for authorization 28.10.2008) 	Flame retardant mainly used for expanded polystyrene and some types of fiber
Lead/lead compounds	<ul style="list-style-type: none"> •EU Directive 2002/95/EC and 2006/618EC •Annex XVII of REACH Regulation •China MII Methods •Korea RoHS •Japan J-MOSS •US/CA SB-20/50 •EU 94/62/EC Directive; Toxics in packaging (TIP) <p>(The children's product)</p> <ul style="list-style-type: none"> •U.S. Consumer Product Safety Improvement Act <p>(Paint and similar surface coatings of toys and other articles intended for use by children)</p> <ul style="list-style-type: none"> •U.S. Consumer Product Safety Improvement Act <p>(Cables/cords)</p> <ul style="list-style-type: none"> •US/CA Proposition 65 Case law (batteries) •EU Directive 2006/66/EC 	<p>rubber hardener, pigment, paint, lubricant, plastic stabilizer, materials for battery, 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>Pigment, paint, stabilizer, colorant</p> <p>Pigment, paint, stabilizer, colorant</p> <p>Cables/cords</p> <p>Batteries</p>
Mercury/mercury compounds	<ul style="list-style-type: none"> •Vermont act relating to comprehensive management of exposure to mercury •Rhode Island General Laws 23-24.9 and amendment of 2007 •Louisiana Mercury Risk Reduction Act •Annex XVII of REACH Regulation •2002/95/EC and 2006/618EC •China MII Methods •Korea RoHS •Japan J-MOSS •US/CA SB-20/50 •EU 94/62/EC Directive; Toxics in packaging (TIP) (batteries) •New York : Battery reduction and elimination •N.Y. Env'tl. Conserv. § 27-0719 •Taiwan Restrictions on the Manufacture, Import, and Sale of Dry Cell Batteries •China QZHG 1997 No. 4: Regulation on mercury content limitation for batteries •Korea: Law on quality management and control of safety of industrial products Battery regulation •Battery regulation;2006/66/EC 	<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"> •Annex XVII of REACH RegulationX 	Stainless steel, plating; Example application for prolonged skin contact is an ear bud (headphone)
Ozone Depleting Substances	<ul style="list-style-type: none"> •Montreal Protocol •EU EC No. 2037/2000, EC1005/2009 •US Clean Air Act 	refrigerant, foaming agent, extinguishant, solvent cleaner

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"> • US/CA DTSC Rulemaking 	Coin cell batteries
Perfluorooctane sulfonate	<ul style="list-style-type: none"> • ANNEX XVII of REACH Regulation and Commission Regulation (EC) No 552/2009 • Canadian Environmental Protection Act SOR/SOR/2008-178 	antistatic agent for films and plastics
Phenols,2-(2H-benzotriazol-2-yl)-4,6-bis(1,1-dimethylethyl)	<ul style="list-style-type: none"> • Japan Law concerning the evaluation of chemical substances 	Adhesives, paints, printing inks, plastics, inked ribbons, putty, caulking or sealing fillers
Selected Phthalates Group1 (DEHP•DBP•BBP)	<ul style="list-style-type: none"> • NNEX XVII of REACH Regulation • Article 33 and 7.2 of REACH Regulation (EC) No 1907/2006 (Candidate list of SVHC for authorization 28.10.2008) • U.S. Consumer Product Safety Improvement Act 	plasticizer, dye, pigment, paint, ink, adhesive, lubricant
Polybrominated Biphenyls(PBBs)	<ul style="list-style-type: none"> • EU Directive 2002/95/EC and 2006/618EC • China MII Methods • Korea RoHS • Japan J-MOSS 	Flame retardant
Polybrominated Diphenylethers(PBDEs)	<ul style="list-style-type: none"> • EU Directive 2002/95/EC and 2006/618EC • China MII Methods • Korea RoHS • Japan J-MOSS 	Flame retardant
Polychlorinated Biphenyls(PCBs) and specificsubstitutes	<ul style="list-style-type: none"> • Japan Law concerning the evaluation of chemical substances • Annex XVII of REACH Regulation • US TSCA 	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"> • Japan Law concerning the evaluation of chemical substances • Annex XVII of REACH Regulation • US TSCA 	insulation oil, lubricant oil, electrical insulation medium, solvent, electrolytic solution; Plasticizers, fire retardants, coatings for electrical wire and cable, dielectric sealants
Polychlorinated Naphthalenes (more than 3 chlorine atoms)	<ul style="list-style-type: none"> • Japan Law concerning the evaluation of chemical substances 	lubricant, paint, stabilizer (electric characteristic, flame-resistant, water-resistant) insulator, flame retardant
Radioactive substances	<ul style="list-style-type: none"> • EU-D 96/29/Euratom; • Japan Law for the Regulation of Nuclear Source Material, Nuclear Fuel Material, and Reactors, 1986 • US NRC 	Optical properties(thorium), measuring devices, gauges, detector
Shortchain Chlorinated Paraffins (C10-C13)	<ul style="list-style-type: none"> • Article 33 and 7.2 of REACH Regulation (EC) No 1907/2006 (Candidate list of SVHC for authorization 28.10.2008) • Norway Product Regulations FOR-2004-06-01 -922 • Swiss Ordinance on Reduction of Risk from Chemical Products 	plasticizer for PVC, flame retardant

Restricted substance by regulation (Continuation)

Substance/ Category	Key Legal and Regulatory or industry standard/ agreement citation	Examples of Use
Tributyl Tin Oxide(TBTO)	<ul style="list-style-type: none"> • Japan Law concerning the evaluation of chemical substances • Article 33 and 7.2 of REACH Regulation (EC) No 1907/2006 (Candidate list of SVHC for authorization 28.10.2008) 	antiseptic, antifungal agent, paint, pigment, antistaining, refrigerant, foaming agent, extinguishant, solvent cleaner
Dibutyltin (DBT) compounds	<ul style="list-style-type: none"> • COMMISSION DECISION 2009/425/EC 	Stabilizer for PVC, curing catalyst for silicone resin and urethane resin
Diocetyl tin (DOT) compounds	<ul style="list-style-type: none"> • COMMISSION DECISION 2009/425/EC 	Stabilizer for PVC, curing catalyst for silicone resin and urethane resin
Dimethyl fumarate(DMF)	<ul style="list-style-type: none"> • COMMISSION DECISION 2009/251/EC 	Biocide, mold treatment of electronic leather seats, including recliners, massage chairs
Tri-substituted organostannic compounds	<ul style="list-style-type: none"> • Commission Decision 2009/425/EC; • Japan Law concerning the evaluation of chemical substances 	Stabilizer, antioxidant, antibacterial and antifungal agents, antifoulant, antiseptic, anti-fungal agent, paint, pigment, antistaining
Arsenic Compounds	<ul style="list-style-type: none"> • ANNEX XVII of REACH Regulation • ISPM-15 	Wood preservative
Methyl bromide	<ul style="list-style-type: none"> • ISPM-15 	Wood pallets
Beryllium Oxide	<ul style="list-style-type: none"> • DIGITALEUROPE/CECED/AeA/EERA guidance 	ceramics
Brominated flame retardants (other than PBBs, PBDEs or HBCDD)	(Plastic parts >25grams other than in printed wiring board assemblies) <ul style="list-style-type: none"> • DIGITALEUROPE/CECED/AeA/EERA guidance (Printed wiring board Laminate) <ul style="list-style-type: none"> • IPC-4101 and IEC 61249-2-21 	flame retardant, printed wiring board laminate, connectors, package molding sealing Printed wiring board Laminate
Selected Phthalates Group2 (DINP•DIDP•DNOP)	<ul style="list-style-type: none"> • ANNEX XVII of REACH Regulation • U.S. Consumer Product Safety Improvement Act 	plasticizer, dye, pigment, paint, ink, adhesive, lubricant
Polyvinyl Chloride	<ul style="list-style-type: none"> • IEEE1680 (EPEAT: Electronic Product Environmental Assessment Tool) 	Insulator, chemical resistance, transparency, sheath material
Tris(2-chloroethyl) phosphate	<ul style="list-style-type: none"> • Article 33 and 7.2 of REACH Regulation (EC) No 1907/2006 (Candidate list of SVHC for authorization 13.01.2010) 	Flame retardant

Revision history

Revision date	Version	Changes
May 31, 2004	1.0	-
February1, 2007	1.2	<ul style="list-style-type: none"> Revised "D&M Group" to "D&M Holdings, Inc." 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". 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. Revised Appendix 1 for RoHS exemptions Revised Appendix 2 for Lead-free soldering.
June 30,2008	1.3	<ul style="list-style-type: none"> Revised Appendix1 for RoHS exemptions
October 7, 2009	1.4	<ul style="list-style-type: none"> <Applied company>company changed to Brand Group Japan base on D&M Organization change. Deleted "Appendix1 EU RoHS Exemption" Deleted "Appendix2 Lead-free Solder" Added "Appendix 1:Prohibited Substances List and Controlled Substances List" 5.Evaluation and Survey deleted "Car NOx & 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" Added "5.3 Surveyed items" Added "Appendix 2 Specified Chemical Substances Details" Added "Appendix 3 Regulation List"
October 8, 2010	1.5	<ul style="list-style-type: none"> Deleted "JAMP AIS" of "5.3 Surveyed Items" Revised Appendix 1,2 and 3 based on JIG-101 Ed 3.1 Added "The Candidate List of SVHC for authorization" and "Note" to Appendix 1
January 7, 2011	1.6	"Measurement method for restricted substances specified in the RoHS Directive " was added to "6. Specified Chemical Substances".
May,10 2011	1.7	<ul style="list-style-type: none"> Revised Appendix 1 for "The Candidate List of SVHC for authorization"
July,01 2011	1.8	<ul style="list-style-type: none"> Revised "Evaluation Criterion for Parts and Products" of "5.1 Evaluated Criterion" Added "5.4 Requirements on the survey data of Specified Chemical Substances"

