

Toppan Printing Co., Ltd. Electronics Division's Green Procurement Guidelines

Ver. 12

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Toppan Printing Co., Ltd.
Electronics Division

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1. Introduction

With the “Toppan Declaration on the Global Environment” as the fundamental concept, we at the Electronics Division of Toppan Printing Co., Ltd. (the “Division”) have been endeavoring to reduce burdens on the environment in our business operations while providing customers with products on which they can rely with confidence.

Recently, Ver.4.4 of "Toppan Group Control Standards for Chemical Substances in Raw Materials" has been issued. Accordingly, Electronics Division has updated “The Green Procurement Guidelines of the Electronics Division (Ver. 12)”.

In this regard, the Division revised a part of “The Green Procurement Guidelines of the Electronics Division” in order to promote further reduction of environmental loads, which may arise from our products and business operations, through continuing cooperation with our valuable suppliers. We will continue to promote the reduction of environmental burden generated by products and business activities through collaboration with all our suppliers.

This Green Procurement Policy is to be applied as a part of our environmental management system and quality management system and will be continuously controlled and maintained.

Your understanding and continued support are greatly appreciated.

2. The Green Procurement Guidelines of the Electronics Division, Toppan Printing Co., Ltd.

The Green Procurement Guidelines of the Electronics Division, Toppan Printing Co., Ltd. (hereinafter referred to as the “Guidelines”) were compiled based on the Green Procurement Policy of the Division, and their purpose is to mitigate any environmental burden from products that are manufactured by the Division as well as its business activities, and to provide detailed procedures regarding Green Procurement to our valuable suppliers.

This Guidelines is to be applied to procurement of every material including raw materials and production equipments for electronics related products, intermediate materials to be used in the processes as well as development, and packing materials that the Electronics Division of Toppan Printing Co., Ltd. or any of its affiliates procures from suppliers.

The contents of these Guidelines may be changed or added to from time to time in accordance with the changing requirements of our customers and social circumstances such as changes in trends in the industry. Any updated versions will be provided to our suppliers.

3. Terminology Used in These Guidelines

JAMP: Joint Article Management Promotion-consortium

JAMP manages information on chemical substances contained in an article appropriately and aims to establish and disseminate the concrete system to disclose and transmit the information through companies on supply chain smoothly.

Homogeneous material: a material that cannot be mechanically disjointed into different materials. The term “homogeneous” means “of uniform composition throughout.” Examples of “homogeneous materials” are individual types of plastics, ceramics, glass, metals, alloys, paper, board, resins and coatings.

Intentionally added: Deliberate use in the formulation of a product or subpart where its continued presence is desired to provide a specific characteristic, appearance or quality. If listed materials or substances are contained in products or subparts purchased by a supplier and are incorporated, such materials/substances must be disclosed if the supplier has knowledge (or with reasonable inquiry should have knowledge) of the presence of such materials or substances.

Material: A material is made up of one or more substances (e.g., an alloy is a material, which in turn, is made up of two or more different elements.).

Product: A product is a chemical product, a part or an end product which is delivered to a customer as the outcome of business activities of the organization.

Note: Under the EU REACH regulation (Registration, Evaluation, Authorization and Restriction of Chemicals) product would be called “article”.

Reportable application: The intended use of a substance which determines its relevance to a given scope and threshold for disclosure.

Note: This use is defined in the scope of the underlying law or industry standard. Examples are batteries, textiles, wood etc.

Substances: Substances are chemical elements and their compounds (e.g., lead (chemical element), lead oxide (compound), polyvinyl chloride (compound)). In order to identify hazardous substances which have Registry numbers (RN) of the Chemical Abstracts System of the American Chemical Society (“CAS” numbers) and / or EINECS numbers, reference numbers used by the European Commission (EC numbers) are assigned to all chemical elements and most of their compounds and should be used for their identification. CAS numbers or EC numbers are provided (from Annex A to AM) if these numbers are publicized.

Threshold level: Concentration level which defines the limit (at or) above which the presence of a substance or material in a product or subpart must be declared based on the requirements of this guide.

4. Requirements for Suppliers

We require our suppliers to comply with the following requests to enable us to implement Green Procurement:

4-1 The construction of environmental management systems and chemical substance control systems

In order to promote environmental activities not just in the business activities of Toppan Printing but throughout the supply chain, we ask for the construction of environmental management systems at suppliers.

We also ask for the construction of chemical substance control systems for the appropriate management of chemical substances in materials and products.

Environmental management systems : The construction of systems compliant with the specifications and requirements of ISO14001:2015

Chemical substance management systems : The construction of systems in line with the JAMP^{*1} “Guidelines for the Management of Chemical Substances in Products”^{*2}

(In addition to management of chemical substances in products at your company, we ask for the construction of a management system that includes your company’s suppliers.)

*1 JAMP website

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

*2 Site featuring the “Guidelines for the Management of Chemical Substances in Products”

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

4.2 Disclosure of situation concerning inclusion of chemical substances

Every supplier is required to submit data on all the substances contained in materials that the Division procures for the purpose of using in our products, new products under development, intermediate materials to be used in manufacturing processes or development, packing materials, and the substances contained in manufacturing equipment that the Division procures for the purpose of manufacturing our products.

The manufacturing equipment covers the portions which are in direct or indirect contact with our products. The details will be determined and reflected in specifications after separate discussions.

In cases where it is difficult technically or socially to ascertain the situation regarding chemical substances in the above materials, Toppan Printing may request individual discussions.

4.2.1 Substances to be investigated

We have established our own criteria for the chemical substances to be investigated in this guideline, based on JAMP Declarable Substances Reference List, chemSHERPA Declarable Substances Reference List, and “Toppan Group Control Standards for Chemical Substances in Raw Materials”.

Prohibited Substances (Table 1): Substances that must not be present in supplied products including raw materials.

In case that no substitute exists or use of certain restrict substances is legally admitted, the Division may permit use of such substance present in supplied products depending on the condition and location, based on consultation with Toppan Group. However, suppliers shall make efforts to reduce or replace such substances.

Table 1

No.	Substance/Category	CAS Numbers	Reportable Application	Threshold Level (Reporting level)	Intentionally added	Identification Method *3
1	Asbestos	See Annex A	All	—	Prohibition	①
2	Azocolourants and azodyes which form certain aromatic amines *4	See Annex B	Textiles and leather	30 ppm	Prohibition	⑤
3	Cadmium/ Cadmium compounds	See Annex C	All, except batteries	100 ppm	Prohibition	④
			Batteries	10 ppm	Prohibition	
4	Chromium(VI) compounds	See Annex D	All	1,000 ppm	Prohibition	④
5	Fluorinated greenhouse gases (PFC, SF6, HFC)	See Annex E	All	—	Prohibition	①
6	Formaldehyde	50-00-0	Composite wood (plywood, particle board, medium density fiberboard) products or components	Room concentration 100µg/m ³ (0.08ppm) or 0.3mg/l	Prohibition	③
			Textiles	75 ppm	Prohibition	⑧
7	Lead/ Lead compounds	See Annex F	All	1,000 ppm	Prohibition	④
8	Mercury/ Mercury compounds	See Annex G	All	1,000 ppm	Prohibition	④
9	Ozone depleting substances	See Annex H	All	—	Prohibition	①
10	Perchlorates	See Annex I	All	0.006 ppm	Prohibition	①
11	Perfluorooctanesulfonic acid (PFOS) and its salt, derivative (analogous compound)	See Annex J	All	—	Prohibition	①
12	2-(2H-1,2,3-Benzotriazol-2-yl)-4,6-di-tert-butylphenol	3846-71-7	All	—	Prohibition	①
13	Polybrominated biphenyls (PBBs)	See Annex K	All	1,000 ppm	Prohibition	④

No.	Substance/Category	CAS Numbers	Reportable Application	Threshold Level (Reporting level)	Intentionally added	Identification Method *3
14	Polybrominated diphenyl ethers (PBDEs)	See Annex L	All	1,000 ppm	Prohibition	④
15	Polychlorinated biphenyls (PCBs) and specific substitutes	See Annex M	All	—	Prohibition	①
16	Polychlorinated terphenyls (PCTs)	See Annex N	All	—	Prohibition	①
17	Polychlorinated naphthalenes (more than 2 chlorine atoms)	See Annex O	All	—	Prohibition	①
18	Vinyl chloride	75-01-4	Food package	Dissolution test 1ppm	— *5	⑥
19	Radioactive substances	See Annex P	All	—	Prohibition	②
20	Short chain chlorinated paraffins (C10 – C13)	See Annex Q	All	—	Prohibition	①
21	Tributyltin (TBT) compounds	See Annex R	All	—	Prohibition	①
22	Triphenyltin (TPT) compounds	See Annex S	All	—	Prohibition	①
23	Dimethyl fumarate	624-49-7	All	0.1 ppm	Prohibition	①
24	Dichloromethane	75-09-2	All	1,000 ppm	Prohibition	⑦
25	Trichloroethylene	79-01-6	All	—	Prohibition	①
26	Tetrachloroethylene *8	127-18-4	All	—	Prohibition	①
27	1,2-Dichloropropane	78-87-5	All	1,000 ppm	Prohibition	⑦
28	Hexabromocyclododecane (HBCDD)	See Annex T	All	—	Prohibition	①
29	Hexachlorobenzene *8	118-74-1	All	—	Prohibition	①
30	Aldrin *8	309-00-2	All	—	Prohibition	①
31	Dieldrin *8	60-57-1	All	—	Prohibition	①
32	Endrin *8	72-20-8	All	—	Prohibition	①
33	1,1,1-Trichloro-2,2-bis(4-chlorophenyl)ethane (DDT) *8	50-29-3	All	—	Prohibition	①
34	Chlordane *8	—	All	—	Prohibition	①
35	N,N'-Diaryl-p-phenylenediamine *8	See Annex U	All	—	Prohibition	①
36	2,4,6-Tri-tert-butylphenol *8	732-26-3	All	—	Prohibition	①
37	Pentachlorophenol and its salts and esters	See Annex V	All	—	Prohibition	①
38	Tetrabromobisphenol A (TBBPA)	79-94-7	All	—	Prohibition	①
39	Toxaphene *8	8001-35-2	All	—	Prohibition	①
40	Mirex *8	2385-85-5	All	—	Prohibition	①
41	Dicofol *8	115-32-2	All	—	Prohibition	①
42	Hexachlorobutadiene *8	87-68-3	All	—	Prohibition	①
43	Pentachlorobenzene *8	608-93-5	All	—	Prohibition	①
44	Cyclohexane *8	110-82-7	All	1,000 ppm	Prohibition	⑦
45	α-Hexachlorocyclohexane *8	319-84-6	All	—	Prohibition	①
46	β-Hexachlorocyclohexane *8	319-85-7	All	—	Prohibition	①
47	γ-Hexachlorocyclohexane *8	58-89-9	All	—	Prohibition	①
48	Chlordecone *8	143-50-0	All	10,000ppm	Prohibition	①
49	Benzidine and its salts *8	—	All	10,000 ppm	Prohibition	①

No.	Substance/Category	CAS Numbers	Reportable Application	Threshold Level (Reporting level)	Intentionally added	Identification Method *3
50	4-Aminodiphenyl and its salts *8	—	All	10,000 ppm	Prohibition	①
51	4-Nitrodiphenyl and its salts *8	—	All	10,000 ppm	Prohibition	①
52	Diethylene glycol monomethyl ether (DEGME) *8	111-77-3	All	1,000 ppm	Prohibition	⑦
53	Diethylene glycol mono-n-butyl ether (DEGBE) *8	112-34-5	All	1,000 ppm	Prohibition	⑦
54	Bis (chloromethyl) ether *8	542-88-1	All	10,000 ppm	Prohibition	①
55	2-Naphthylamine and its salts (β-Naphthylamine and its salts) *8	—	All	—	Prohibition	①
56	White phosphorus *8	—	All	—	Prohibition	①
57	Rubber cement containing benzene, where the benzene accounts for more than 5% of the rubber cement solvent (including diluting agent) *8	—	All	—	Prohibition	①
58	Disodium-4-amino-3-[[4'-(2,4-diaminophenyl)azo][1,1'-biphenyl]-4-yl]azo]-5-hydroxy-6-(phenylazo)naphthalene-2,7-disulphonate (C.I. Direct Black 38)	1937-37-7	All	—	Prohibition	①
59	Methylenediphenyl diisocyanate (MDI) *8	26447-40-5	All	1,000 ppm	Prohibition	⑦
60	Tris(2,3-dibromopropyl)phosphate *8	126-72-7	All	—	Prohibition	①
61	Tris(1-aziridinyl)phosphine oxide (TEPA) *8	545-55-1	All	—	Prohibition	①
62	Certain Phtalates	See Annex W	ALL	1,000ppm	Prohibition	⑨
63	Perfluorooctanoic acid (Pentadecafluorooctanoic acid (PFOA)) *8	335-67-1	ALL	25ppb	Prohibition	⑦
64	Perfluoro fatty acid and its salt, derivative(analogous compound) (other than PFOA) *8	See Annex X	ALL	1ppm	Prohibition	⑦

Prohibited Substances (Table 2): Substances included in supplied products including materials whose concentration and application area that required to be recognized.

Suppliers shall disclose the quantity of the substance if it exceeds the specified threshold level in their supplied products.

Table 2

No.	Substance/Category	CAS Numbers	Reportable Application	Threshold Level (Reporting level)	Identification Method *3
1	Nickel / Nickel compounds	See Annex Y	All, where prolonged skin contact is expected	—	⑦
2	Arsenic / Arsenic compounds	See Annex Z	All	1,000 ppm	⑦
3	Beryllium oxide	1304-56-9	All	1,000 ppm	⑦
4	Brominated flame retardants (other than PBBs , PBDEs or HBCDD)	See Annex AA	All	1,000 ppm	⑦
5	Phthalates (other than certain phthalates (Table W))	See Annex AB	All	1,000 ppm	⑨
6	Anthracene and Anthracene oil	See Annex AC	All	1,000 ppm	⑦
7	Cobalt compounds	See Annex AD	All	1,000 ppm	⑦
8	Antimony / Antimony compounds	See Annex AE	All	1,000 ppm	⑦
9	Boric acid and Boron compounds	See Annex AF	All	1,000 ppm	⑦
10	Acrylamide	79-06-1	All	1,000 ppm	⑦
11	Dibutyltin (DBT) compounds	See Annex AG	All	1,000 ppm *6	⑦
12	Diocetyl tin (DOT) compounds	See Annex AH	All	1,000 ppm *6	⑦
13	Tri-substituted organostannic compounds *8	-	All	1,000 ppm	⑦
14	Chlorinated flame retardants *8	See Annex AI	All	1,000 ppm	⑦
15	Polyvinyl chloride(PVC) & PVC copolymers *8	See Annex AJ	All	1,000 ppm	⑦
16	Perfluoroalkyl sulfonates (PFASs) (other than PFOS) *8	—	All	1,000 ppm	⑦
17	Metal carbonyl compounds *8	—	All	—	⑦
18	Polycyclic aromatic hydrocarbons	See Annex AK	Where prolonged skin contact is expected	1ppm	⑩
			Other than those above	1,000ppm	
19	p-Dichlorobenzene *8	106-46-7	All	10,000 ppm	⑦
20	Benzotriazol compounds	See Annex AL	All	1,000ppm	⑦
21	Trichlorobenzene	120-82-1	All	1,000ppm	⑦
22	SVHC substances regulated under REACH *7	See Annex AM	All	0.1% by weight of the product	⑦

*Note 3 : Identification methods are indicated in 4-2-2.

*Note 4 : None of the specified amine out of 24 types never be exceeded the threshold.

*Note 5 : If “—“ is indicated in the “Intentionally added” column, the substances could be used but reduction/replacement of that substances would be recommended.

*Note 6 : Weight of metal Sn of 0.1% (1,000ppm) in the material is the threshold.

*Note 7 : If controlled substances and prohibited substances are overlapped, prohibited substances will prevail.

*Note 8 : Substances defined not only by "Toppan Group Control Standards for Chemical Substances in Raw Materials", but from a standpoint of the Electronics Division.

Determination of “contains”

- For groups of chemical substances where “-” is recorded for the threshold level, where there is intentional addition the item will be determined to “contain” the substance. On each product please disclose the mass in “g” and added volume in “ppm”.
- For groups of chemical substances where the threshold level is recorded as “○○ppm”, regardless of whether there is intentional addition or not, if there is a target chemical substance present exceeding the threshold level, including impurity concentration, the item will be determined to “contain” the substance. For each homogenous material of a product, please disclose the mass of the homogenous material in “g” and the volume contained in “ppm”.

Determination of “does not contain”

- In cases other than the abovementioned, the item will be determined to “not contain” the substance. For groups of chemical substances where the threshold level is recorded as “○○ppm”, in order that the product can be recorded as “not containing” the substance, it must be scientifically verified that the threshold level is not exceeded via the result of analysis or similar means.

Response to national legislation and additional EU SVHC

- Substances whose manufacture / usage are additionally prohibited by revised national legislation before the revision of these standards shall be treated as prohibited substances.
- When EU REACH Substances of Very High Concern (SVHC) are added in Candidate List, they shall be treated as “controlled substances” (as a rule, threshold shall be 1,000ppm, Identification method shall be according to ⑦).

(Refer to <http://echa.europa.eu/candidate-list-table> for SVHC Candidate List.)

Exemption of prohibited substances

In consideration of business content, and technical and economic factors, procurement restrictions may not be applicable in cases where exclusion or substitution is difficult. For known uses, exemptions are stipulated for each group of substances.

Details on requisites for exemption are provided in Table 3.

Table 3
Requisites for exemption for containing prohibited substances

Substance/Category	Requisites for exemption
Cadmium/Cadmium compounds	-Used for filter glasses or glasses for standard light reflection. -Used for plating electrical contact
Hexavalent Chromium/Hexavalent Chromium Compounds	For the purpose of -Plating -Etching -Photo-resist
Lead/Lead Compounds	-Steel material or lead plating steel with a lead content less than 0.35wt% -Aluminum material with a lead content less than 0.4wt% -Copper alloy with a lead content less than 4wt% -High-melting solder for interconnection (lead solder with a lead content in excess of 85wt%) -Optical glasses -Filter glasses or glasses for standard light reflection -Semiconductor-die of IC packages (FCBGA) and plating for electric interconnection between carriers

* In addition to Table 3 above, those that were exempted in 2011/65/EU will also be exempt

4.2.2 Identification method

Identification method: Measure content concentration a homogeneous material unit, with the following method.

- No.①: Check of there being no intentional addition
- No.②: Substance would be measured by Geiger counter, etc.
- No.③: Refer to EN717-1:2004, EN120:1992, JIS A 5905:2003, JIS A 5908:2003, JIS A 1460:2001
- No.④: Refer to IEC62321 Ed.1
- No.⑤: Refer to ISO 24362:2014, ISO 17234-1:2010, ISO 17234-2:2011, EN 14362:2012, JIS L 1940-1:2014,JIS L 1940-3:2014,LMBG 82.02(DGF Standard Methods)
- No.⑥: Analysis method for food packaging complies with the Specifications and Standards for Foods and Food Additives, etc. in Ministry of Health and Welfare Notification No. 370, and the standards for plastics containers/packages stipulated in the Ministerial Ordinance on Milk and Milk products Concerning Compositional Standards, etc. (Ministry of Health and Welfare Ordinance No. 52). Analysis method for toys complies with European standard EN 71-3 specifying safety requirements for toys. The threshold values used for the analysis method above are also in accordance with specifications and standards stipulated in related regulations respectively
- No.⑦: Calculation is made on suppliers' materials using (M)SDS . Confirm a value at maximum.
- No.⑧: Refer to JIS L 1041:2011
- No.⑨: Refer to IEC 62321 part 8
- No.⑩: Measured using analysis method compliant with GS2014:01PAK (German official method)

(Table a) Precision analysis method for ten substances restricted by RoHS Directive

Substance	kind of sample	Precision analysis		IEC 62321 Reference
		Pretreatment	analysis method	
Cadmium / Cadmium compounds Lead / Lead compounds	Polymer	Incineration Acid decomposition (Cadmium)	ICP-OES ICP-MS AAS	Part 5
	Metal	Acid decomposition		
	Electronic components	Acid decomposition Microwave digestion		
Mercury / Mercury compounds	Polymer	Microwave digestion	ICP-OES ICP-MS CV-AAS CV-AFS	Part 4
	Metal	Microwave digestion		
	Electronic components	Mechanical pulverization Freeze pulverization Wet process digestion		
Chromium(+6) cation	Metal	Surface washing, Coating removal	Diphenylcarbazine Absorption photometry	Part 7
	Polymer Electronic components	Alkaline degradation		
Polybrominated Biphenyls (PBBs)	Polymer	Elution after dissolves in an organic solvent	GC/MS	Part 6
Polybrominated Diphenyl Ethers(PBDEs)				
Butylbenzyl phthalate (BBP)	Polymer	Elution after dissolves in an organic solvent	GC/MS	Part 8
Dibutyl phthalate (DBP)				
Di(2-ethylhexyl) phthalate (DEHP)				
Diisobutyl phthalate(DIBP)				

4.3 Promotion to eliminate inclusion of restricted substances

- With regard to all materials, including raw materials, to be used in products or new products under development, intermediate materials to be used in manufacturing or development and packing materials, as well as manufacturing equipment that contain particular investigated substance, the Division will perform further review to eliminate some substances if necessary.
- Therefore, based on the results of investigation, the Division may ask suppliers to develop alternative materials or switch to an alternative material. In the process we will make our best efforts in good faith and we hope every supplier thoroughly understands and cooperates with the Green Procurement Policy of the Division.

4.4 Assurance of non-inclusion of restricted substances

In the case that a supplier can guarantee non-inclusion of the restricted substances in raw materials that the Division procures to be used in our products or products under development, intermediate materials to be used for manufacturing processes or development, packing materials, etc., such supplier will be asked to guarantee non-inclusion of the controlled substances.

However, non-inclusion of restricted substances can be guaranteed when the following requirements are satisfied.

- No restricted substance is intentionally added (by design).
- Contents of restricted substances of which threshold values are set forth are less than the threshold value including impurities.
- A green procurement policy is in place, and the raw materials are sufficiently controlled.
- There is no risk of contamination within the processes of the supplier.
- With regard to RoHS Directive related substances, non-inclusion can be scientifically proved with analysis data or other means.

4.5 Promotion of continuous research

We are determined to continuously promote control of restricted substances through Green Procurement. In addition to chemical substances cited in these guidelines as subject to investigation or prohibition, there are cases where separate or individual investigations are requested in response to trends in laws and regulations or the demands of Toppan Printing's customers. We kindly ask for your cooperation in such situations.

5. Control of Information Disclosed by Suppliers

Any information disclosed by our suppliers will be managed with responsibility and will not be disclosed to any third party except for in the case of a legal order by the government or law, or for the purpose of using it in the quality assurance of our products as a result of a request by a customer.

6. Validation Timing of Green Procurement

Our Green Procurement has been applied since June 23, 2005, when the "Green Procurement Policy of the Electronics Division of Toppan Printing Co., Ltd." was established.

7. The handling of these guidelines

These guidelines are provided to new suppliers by the relevant purchasing department at Toppan Printing when transactions are commenced. They are provided in the same way when revisions have been made.

8. Inquiries

For inquiries concerning the Division's Green Procurement, please contact:

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Toppan Printing Co., Ltd.
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Annex A to AM (Informative) Detailed Substance Lists with CAS Numbers and/or EC Numbers

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

Table A – 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

Table B – Azocolourants and azodyes which form certain aromatic amines

Aromatic Amines	CAS Numbers
4-Aminobiphenyl	92-67-1
Benzidine	92-87-5
4-Chloro-2-methylaniline	95-69-2
2-Naphthylamine	91-59-8
o-Aminoazotoluene	97-56-3
5-Nitro-o-toluidine	99-55-8
p-Chloroaniline	106-47-8
2,4-Diaminoanisole	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'-Diamino-3,3'-dimethyldiphenylmethane	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'-Diaminodiphenylsulfide	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-Aminoazobenzene	60-09-3
2,4-Dimethylaniline	95-68-1
2,6-Dimethylaniline	87-62-7

Note: Applies to azocolourants and azodyes that by reductive cleavage of azo groups may release one or more of the above 24 aromatic amines.

Table C – 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 3119-53-6
Cadmium fluoride	7790-79-6
Cadmium nitrate	10325-94-7
Cadmium hydroxide	21041-95-2
Cadmium carbonate	513-78-0
Other cadmium compounds	—

Table D—Chromium(VI) compounds

Chromium(VI) compounds	EC Numbers	CAS Numbers
Chromium (VI) oxide (Chromium trioxide)	215-607-8	1333-82-0
Barium chromate		10294-40-3
Calcium chromate		13765-19-0
Sodium chromate		7775-11-3
Sodium dichromate		10588-01-9
Sodium dichromate dihydrate		7789-12-0
Strontium chromate		7789-06-2
Potassium dichromate		7778-50-9
Ammonium dichromate		7789-09-5
Potassium chromate		7789-00-6
Zinc chromate		13530-65-9
Chromic acid		7738-94-5
Dichromic acid		13530-68-2
Pentazinc chromate octahydroxide	256-418-0	49663-84-5
Potassium hydroxyoctaoxidizincatedichromate	234-329-8	11103-86-9
Dichromium tris(chromate)	246-356-2	24613-89-6
Olygomer of chromic acid and/or dichromic acid		—
Other chromium(VI) compounds		—

Table E—Fluorinated greenhouse gases**Perfluorocarbons (PFC), Sulfur hexafluoride (SF6) & Hydrofluorocarbons (HFC)**

Fluorinated greenhouse gases	CAS Numbers
Carbon tetrafluoride (Perfluoromethane)	75-73-0
Perfluoroethane (Hexafluoroethane)	76-16-4
Perfluoropropane (Octafluoropropane)	76-19-7
Perfluorobutane (Decafluorobutane)	355-25-9
Perfluoropentane (Dodecafluoropentane)	678-26-2
Perfluorohexane (Tetradecafluorohexane)	355-42-0
Perfluorocyclobutane	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
1,2-Difluoroethane (HFC-152)	624-72-6
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-Hexafluoropropane (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

Table F— Lead / Lead compounds

Lead / Lead compounds	EC Numbers	CAS Numbers
Lead		7439-92-1
Lead (II) sulfate		7446-14-2
Lead (II) carbonate		598-63-0
Lead (II) chromate	231-846-0	7758-97-6
Lead (II) carbonate basic	215-290-6	1319-46-6
Lead acetate	206-104-4	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	215-235-6	1314-41-6
Lead (II) sulfide		1314-87-0
Lead (II) oxide	215-267-0	1317-36-8
Lead hydroxidcarbonate		1344-36-1
Lead (II) titanate	235-038-9	12060-00-3
Lead sulfate		15739-80-7
Lead sulphate, monobasic	234-853-7	12036-76-9
Lead sulphate, tribasic	235-380-9	12202-17-4
Lead sulphate, tetrabasic	235-067-7	12065-90-6
Lead stearate		1072-35-1
Lead (II) arsenate	222-979-5	3687-31-8
Lead(II) dinitrate	233-245-9	10099-74-8
Lead arsenate	232-064-2	7784-40-9
Lead (II) dimethanesulfonate	401-750-5	17570-76-2
Lead (II) azide	236-542-1	13424-46-9
Lead (II) dipicrate	229-335-2	6477-64-1
Lead (II) 2,4,6-trinitrobenzene-1,3-diolate	239-290-0	15245-44-0
Lead tetrafluoroborate	237-486-0	13814-96-5
Lead zirconium titanium oxide	235-727-4	12626-81-2
Lead silicate	234-363-3	11120-22-2
Barium silicate (composition 1:1, lead-doped)	272-271-5	68784-75-8
Lead acetate, basic	257-175-3	51404-69-4
Dibasic lead phthalate	273-688-5	69011-06-9
Dioxobis(stearato)trilead	235-702-8	12578-12-0
Fatty acids, C16-18, lead salts	292-966-7	91031-62-8
Lead cyanamidate	244-073-9	20837-86-9
Pyrochlore, antimony lead yellow	232-382-1	8012-00-8
Sulfurous acid, lead salt, dibasic	263-467-1	62229-08-7
Tetraethyllead	201-075-4	78-00-2
Lead phosphite, dibasic	235-252-2	12141-20-7
Lead chromate molybdate sulphate red (C.I. Pigment Red 104)	235-759-9	12656-85-8
Lead sulfochromate yellow (C.I. Pigment Yellow 34)	215-693-7	1344-37-2
Other lead compounds		—

Table G—Mercury /Mercury compounds

Mercury /Mercury compounds	CAS Numbers
Mercury	7439-97-6
Mercuric (II) chloride	33631-63-9
Mercury (II) chloride	7487-94-7
Mercuric sulfate	7783-35-9

Mercury /Mercury compounds	CAS Numbers
Mercuric (II) nitrate	10045-94-0
Mercuric (II) oxide	21908-53-2
Mercuric (II) sulfide	1344-48-5
Other mercury compounds	—

**Table H—Ozone depleting substances
Chlorofluorocarbons (CFC), Halons, Hydrobromofluorocarbons (HBFC), Hydrochlorofluorocarbons (HCFC) and others**

Ozone depleting substances*	CAS Numbers
Trichlorofluoromethane (CFC-11)	75-69-4
Dichlorodifluoromethane (CFC-12)	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
	135401-87-5
1,1,1,2,2,3,3-Heptachloro-3-fluoropropane (CFC-211aa)	422-78-6
1,1,1,2,3,3,3-Heptachloro-2-fluoropropane (CFC-211ba)	422-81-1
Hexachlorodifluoropropane (CFC-212)	3182-26-1
Pentachlorotrifluoropropane (CFC-213)	2354-06-5
	134237-31-3
Tetrachlorotetrafluoropropane (CFC-214)	29255-31-0
1,2,2,3-Tetrachloro-1,1,3,3-tetrafluoropropane (CFC-214aa)	2268-46-4
1,1,1,3-Tetrachloro-2,2,3,3-tetrafluoropropane (CFC-214cb)	—
Trichloropentafluoropropane (CFC-215)	1599-41-3
1,2,2-Trichloropentafluoropropane (CFC-215aa)	1599-41-3
1,2,3-Trichloropentafluoropropane (CFC-215ba)	76-17-5
1,1,2-Trichloropentafluoropropane (CFC-215bb)	—
1,1,3-Trichloropentafluoropropane (CFC-215ca)	—
1,1,1-Trichloropentafluoropropane (CFC-215cb)	4259-43-2
Dichlorohexafluoropropane (CFC-216)	661-97-2
Chloroheptafluoropropane (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 (Methylchloroform)	71-55-6
Bromomethane (Methyl bromide)	74-83-9
Bromoethane (Ethyl bromide)	74-96-4
1-Bromopropane (n-Propyl bromide)	106-94-5

Ozone depleting substances*	CAS Numbers
Trifluoriodomethane (Trifluoromethyl iodide)	2314-97-8
Chloromethane (Methyl chloride)	74-87-3
Dibromofluoromethane (HBFC-21 B2)	1868-53-7
Bromodifluoromethane (HBFC-22 B1)	1511-62-2
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-121)	134237-32-4
1,1,2,2-Tetrachloro-1-fluoroethane (HCFC-121)	354-14-3
1,1,1,2-Tetrachloro-2-fluoroethane (HCFC-121a)	354-11-0
Trichlorodifluoroethane (HCFC-122)	41834-16-6
1,2,2-Trichloro-1,1-difluoroethane (HCFC-122)	354-21-2
1,1,2-Trichloro-1,2-difluoroethane (HCFC-122a)	354-15-4
1,1,1-Trichloro-2,2-difluoroethane (HCFC-122b)	354-12-1
Dichlorotrifluoroethane (HCFC-123)	34077-87-7
1,1-Dichloro-2,2,2-trifluoroethane (HCFC-123)	306-83-2

Ozone depleting substances*	CAS Numbers
1,2-Dichloro-1,1,2-trifluoroethane (HCFC-123a)	354-23-4 90454-18-5
1,1-Dichloro-1,2,2-trifluoroethane (HCFC-123b)	812-04-4
Chlorotetrafluoroethane (HCFC-124)	63938-10-3
2-Chloro-1,1,1,2-tetrafluoroethane (HCFC-124)	2837-89-0
1-Chloro-1,1,2,2-tetrafluoroethane (HCFC-124a)	354-25-6
Trichlorofluoroethane (HCFC-131)	27154-33-2 (134237-34-6)
1,1,2-Trichloro-2-fluoroethane (HCFC-131)	359-28-4
1,1,2-Trichloro-1-fluoroethane (HCFC-131a)	811-95-0
1,1,1-Trichloro-2-fluoroethane (HCFC-131b)	2366-36-1
Dichlorodifluoroethane (HCFC-132)	25915-78-0
1,2-Dichloro-1,2-difluoroethane (HCFC-132)	431-06-1
1,1-Dichloro-2,2-difluoroethane (HCFC-132a)	471-43-2
1,2-Dichloro-1,1-difluoroethane (HCFC-132b)	1649-08-7
1,1-Dichloro-1,2-difluoroethane (HCFC-132c)	1842-05-3
Chlorotrifluoroethane (HCFC-133)	1330-45-6 431-07-2
2-Chloro-1,1,1-trifluoroethane (HCFC-133a)	75-88-7
1-Chloro-1,1,2-trifluoroethane (HCFC-133b)	421-04-5
Dichlorofluoroethane (HCFC-141)	25167-88-8
1,2-Dichloro-1-fluoroethane (HCFC-141)	430-57-9
1,1-Dichloro-2-fluoroethane (HCFC-141a)	430-53-5
1,1-Dichloro-1-fluoroethane (HCFC-141b)	1717-00-6
Chlorodifluoroethane (HCFC-142)	25497-29-4
2-Chloro-1,1-difluoroethane (HCFC-142)	338-65-8
1-Chloro-1,1-difluoroethane (HCFC-142b)	75-68-3
1-Chloro-1,2-difluoroethane (HCFC-142a)	338-64-7
Chlorofluoroethane (HCFC-151)	110587-14-9
1-Chloro-2-fluoroethane (HCFC-151)	762-50-5
1-Chloro-1-fluoroethane (HCFC-151a)	1615-75-4
Hexachlorofluoropropane (HCFC-221)	134237-35-7 29470-94-8
1,1,1,2,2,3-Hexachloro-3-fluoropropane (HCFC-221ab)	422-26-4
Pentachlorodifluoropropane (HCFC-222)	134237-36-8
1,1,1,3,3-Pentachloro-2,2-difluoropropane (HCFC-222ca)	422-49-1
1,2,2,3,3-Pentachloro-1,1-difluoropropane (HCFC-222aa)	422-30-0
Tetrachlorotrifluoropropane (HCFC-223)	134237-37-9
1,1,3,3-Tetrachloro-1,2,2-trifluoropropane (HCFC-223ca)	422-52-6
1,1,1,3-Tetrachloro-2,2,3-trifluoropropane (HCFC-223cb)	422-50-4
Trichlorotetrafluoropropane (HCFC-224)	134237-38-0
1,3,3-Trichloro-1,1,2,2-tetrafluoropropane (HCFC-224ca)	422-54-8
1,1,3-Trichloro-1,2,2,3-tetrafluoropropane (HCFC-224cb)	422-53-7
1,1,1-Trichloro-2,2,3,3-tetrafluoropropane (HCFC-224cc)	422-51-5
Dichloropentafluoropropane (HCFC-225)	127564-92-5
2,2-Dichloro-1,1,1,3,3-pentafluoropropane (HCFC-225aa)	128903-21-9
2,3-Dichloro-1,1,1,2,3-pentafluoropropane (HCFC-225ba)	422-48-0
1,2-Dichloro-1,1,2,3,3-pentafluoropropane (HCFC-225bb)	422-44-6
3,3-Dichloro-1,1,1,2,2-pentafluoropropane (HCFC-225ca)	422-56-0

Ozone depleting substances*	CAS Numbers
1,3-Dichloro-1,1,2,2,3-pentafluoropropane (HCFC-225cb)	507-55-1
1,1-Dichloro-1,2,2,3,3-pentafluoropropane(HCFC-225cc)	13474-88-9
1,2-Dichloro-1,1,3,3,3-pentafluoropropane (HCFC-225da)	431-86-7
1,3-Dichloro-1,1,2,3,3-pentafluoropropane (HCFC-225ea)	136013-79-1
1,1-Dichloro-1,2,3,3,3-pentafluoropropane(HCFC-225eb)	111512-56-2
Chlorohexafluoropropane (HCFC-226)	134308-72-8
2-Chloro-1,1,1,3,3,3-hexafluoropropane (HCFC-226da)	431-87-8
Pentachlorofluoropropane (HCFC-231)	134190-48-0
1,1,1,2,3-Pentachloro-2-fluoropropane (HCFC-231bb)	421-94-3
Tetrachlorodifluoropropane (HCFC-232)	134237-39-1
1,1,1,3-Tetrachloro-3,3-difluoropropane (HCFC-232fc)	460-89-9
Trichlorotrifluoropropane (HCFC-233)	134237-40-4
1,1,1-Trichloro-3,3,3-trifluoropropane (HCFC-233fb)	7125-83-9
Dichlorotetrafluoropropane (HCFC-234)	127564-83-4
1,2-Dichloro-1,2,3,3-tetrafluoropropane (HCFC-234db)	425-94-5
Chloropentafluoropropane (HCFC-235)	134237-41-5
1-Chloro-1,1,3,3,3-pentafluoropropane (HCFC-235fa)	460-92-4
Tetrachlorofluoropropane (HCFC-241)	134190-49-1
1,1,2,3-Tetrachloro-1-fluoropropane (HCFC-241db)	666-27-3
Trichlorodifluoropropane (HCFC-242)	134237-42-6
1,3,3,Trichloro-1,1-difluoropropane (HCFC-242fa)	460-63-9
Dichlorotrifluoropropane (HCFC-243)	134237-43-7
1,1-Dichloro-1,2,2-trifluoropropane (HCFC-243cc)	7125-99-7
2,3-Dichloro-1,1,1-trifluoropropane (HCFC-243db)	338-75-0
3,3-Dichloro-1,1,1-trifluoropropane (HCFC-243fa)	460-69-5
Chlorotetrafluoropropane (HCFC-244)	134190-50-4
3-Chloro-1,1,2,2-tetrafluoropropane (HCFC-244ca)	679-85-6
1-Chloro-1,1,2,2-tetrafluoropropane (HCFC-244ce)	421-75-0
Trichlorofluoropropane (HCFC-251)	134190-51-5
1,1,3-Trichloro-1-fluoropropane (HCFC-251fb)	818-99-5
1,1,2-Trichloro-1-fluoropropane (HCFC-251dc)	421-41-0
Dichlorodifluoropropane (HCFC-252)	134190-52-6
1,3-Dichloro-1,1-difluoropropane (HCFC-252fb)	819-00-1
Chlorotrifluoropropane (HCFC-253)	134237-44-8
3-Chloro-1,1,1-trifluoropropane (HCFC-253fb)	460-35-5
Dichlorofluoropropane (HCFC-261)	134237-45-9
1,1-Dichloro-1-fluoropropane (HCFC-261fe)	7799-56-6
1,2-Dichloro-2-fluoropropane (HCFC-261ba)	420-97-3
Chlorodifluoropropane (HCFC-262)	134190-53-7
1-Chloro-2,2-difluoropropane (HCFC-262ca)	420-99-5
2-Chloro-1,3-difluoropropane (HCFC-262da)	102738-79-4
1-Chloro-1,1-difluoropropane (HCFC-262fe)	421-02-3
Chlorofluoropropane (HCFC-271)	134190-54-8
2-Chloro-2-fluoropropane (HCFC-271ba)	420-44-0
1-Chloro-1-fluoropropane (HCFC-271fb)	430-55-7

*Note: These substances may contain further isomers that are not listed here (including isomers comprised of different substituent positions).

Table I – Perchlorate

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

Table J – Perfluorooctanesulfonic acid (PFOS) and its salt, derivative (analogous compound)

PFOS compounds	CAS Numbers
Perfluorooctane sulfonic acid (Heptadecafluorooctanesulfonic acid (PFOS))	1763-23-1
Perfluorooctanesulfonic acid (PFOS) and its salt, derivative (analogous compound) $C_8F_{17}SO_2X$, where $X = O \cdot NH_4, O \cdot K, O \cdot Na$ or other derivative	—
Perfluorooctane-1-sulfonyl fluoride (PFOSF)	307-35-7

Table K – 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 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

Table L – 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

Table M – 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
Aroclor	12767-79-2
Chlorodiphenyl (Aroclor 1260)	11096-82-5
Kanechlor 500	27323-18-8
Aroclor 1254	11097-69-1
Terphenyl	26140-60-3

Table N – Polychlorinated terphenyls (PCTs)

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

Table O – Polychlorinated naphthalenes (more than 2 chlorine atoms)

Polychlorinated naphthalenes	CAS Numbers
Polychlorinated naphthalenes	70776-03-3
Dichloronaphthalene	28699-88-9
Trichloronaphthalene	1321-65-9
Tetrachloronaphthalene	1335-88-2
Pentachloronaphthalene	1321-64-8
Hexachloronaphthalene	1335-87-1
Heptachloronaphthalene	32241-08-0
Octachloronaphthalene	2234-13-1
Other polychlorinated naphthalenes	—

Table P – Radioactive substances (Radioactive isotope)

Radioactive substances	CAS Numbers
Uranium-238	7440-61-1
Plutonium	—
Radon	10043-92-2
Americium-241	14596-10-2
Thorium-232	7440-29-1
Cesium (Radioactive isotope)	7440-46-2 (Cs-137 10045-97-3)
Strontium (Radioactive isotope)	7440-29-6 (Sr-90 10098-97-2)
Other radioactive substances	—

Table Q – Short chain chlorinated paraffins

Short chain chlorinated paraffins (C10-C13)	EC Numbers	CAS Numbers
Alkanes, C10-13, chloro (Chlorinated paraffin C=10-13)	287-476-5	85535-84-8
Alkanes, C10-12, chloro (Chlorinated paraffin C=10-12)		108171-26-2
Alkanes, C12-13, chloro (Chlorinated paraffin C=12-13)		71011-12-6
Alkanes, chloro (Chlorinated paraffin)		61788-76-9
Other short chain chlorinated paraffins		—

Table R – Tributyltin (TBT) compounds

Tributyltin (TBT) compounds	CAS Numbers
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
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
Mixture of Tributyltin cyclopentanecarboxylate and its derivatives (Tributyltin naphthenate)	85409-17-2
Mixture of Tributyltin 1,2,3,4,4a,4b,5,6,10,10a-decahydro-7-isopropyl-1,4a-dimethyl-1-phenanthrene carboxylate and its derivatives (Tributyltin rosin salts)	26239-64-5
Bis(tri-n-butyltin) oxide (TBTO)	56-35-9
Other tributyltin compounds	—

Table S—Triphenyltin (TPT) compounds

Triphenyltin (TPT) 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 fatty acid((9-11)salt)	18380-71-7 18380-72-8 47672-31-1 94850-90-5
Triphenyltinchloroacetate	7094-94-2
Other triphenyltin compounds	—

Table T—Hexabromocyclododecane (HBCDD)

Hexabromocyclododecane (HBCDD)	CAS Numbers
Hexabromocyclododecane (HBCDD)	25637-99-4 3194-55-6
α -Hexabromocyclododecane	134237-50-6
β -Hexabromocyclododecane	134237-51-7
γ -Hexabromocyclododecane	134237-52-8
Other HBCDD isomers	—

Table U—N,N'-Diaryl-p-phenylenediamine

N,N'-Diaryl-p-phenylenediamine	CAS Numbers
N,N'-Di-p-tolyl-1,4-phenylenediamine	620-91-7
N,N'-Di-o-tolyl-1,4-phenylenediamine	15017-02-4
N,N'-Ditolyl-1,4-phenylenediamine	27417-40-9
N,N'-Bis(dimethylphenyl)-1,4-phenylenediamine	28726-30-9
N-(Dimethylphenyl)-N'-tolyl-1,4-phenylenediamine	70290-05-0

Table V—Pentachlorophenol and its salts and esters

Pentachlorophenol and its salts and esters	CAS Numbers
2,3,4,5,6-Pentachlorophenol	87-86-5
Sodium pentachlorophenol	131-52-2
Pentachlorophenol Sodium salt	27735-64-4
Pentachlorophenyl laurate	3772-94-9
Other Pentachlorophenol isomers, its salts, esters	—

Table W—Certain phthalates

Certain phthalates	CAS Numbers
Butyl benzyl phthalate (BBP)	85-68-7
Dibutyl phthalate (DBP)	84-74-2
Bis(2-ethylhexyl) phthalate (DEHP)	117-81-7
Diisobutyl phthalate (DIBP)	84-69-5
Diisodenyl phthalate (DIDP)	26761-40-0 68515-49-1
Diisononyl phthalate (DINP)	28553-12-0 68515-48-0
Di-n-octyl phthalate (DNOP)	117-84-0

Table X—Perfluoro fatty acid and its salt, derivative (analogous compound)

Perfluoro fatty acid and its salt, derivative (analogous compound)	CAS Numbers
Perfluoro fatty acid (PFOA) and its salt, derivative (analogous compound) C ₇ F ₁₅ COX, where X = O·NH ₄ , O·K, O·Na or other derivative	(NH ₄ (APFO): 3825-26-1)
Heptadecafluorononanoic acid	375-95-1
Sodium heptadecafluorononanoate	21049-39-8
Ammonium heptadecafluorononanoate	4149-60-4

Perfluoro fatty acid and its salt, derivative (analogous compound)	CAS Numbers
Nonadecafluorodecanoic acid	335-76-2
Sodium nonadecafluorodecanoate	3830-45-3
Ammonium nonadecafluorodecanoate	3108-42-7
Henicosafuoroundecanoic acid	2058-94-8
Tricosafuorododecanoic acid	307-55-1
Pentacosafuorotridecanoic acid	72629-94-8
Heptacosafuorotetradecanoic acid	376-06-7

*Note: Level of use imitation and scope for the substances may be changed according to the update of relevant environmental laws from time to time.

Table Y – Nickel and its compounds

Nickel and its compounds	CAS Numbers
Nickel	7440-02-0
Nickel oxide (II)	1313-99-1
Nickel chloride (II)	7718-54-9
Nickel chloride (II) hexahydrate	7791-20-0
Nickel sulfate (II)	7786-81-4
Nickel sulfate (II) hexahydrate	10101-97-0
Nickel sulfate (II) heptahydrate	10101-98-1
Other nickel compounds	—

Table Z – Arsenic / Arsenic compounds

Arsenic / Arsenic compounds	CAS Numbers
Arsenic	7440-38-2
Gallium arsenide	1303-00-0
Calcium arsenate	7778-44-1
Calcium arsenite	27152-57-4
Diarsenic pentaoxide	1303-28-2
Diarsenic trioxide	1327-53-3
Potassium arsenite	10124-50-2
Potassium arsenate	7784-41-0
Arsenic acid triethyl ester	15606-95-8
Arsenic acid	7778-39-4
Other arsenic compounds	—

Table AA – 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
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

Brominated flame retardants (other than PBBs , PBDEs or HBCDD)	CAS Numbers
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 bis-(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 (TBBS)	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-tetrabromophthalate	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
2,3-Dibromopropanol	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
Bromoethylene	593-60-2
Isocyanuric acid tris(2,3-dibromopropyl) ester	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	68441-46-3
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
Octabromo-1,3,3-trimethyl-1-phenylindan	155613-93-7
1,2-Dibromo-4-(1,2 dibromo-methyl)-cyclo-hexane	3322-93-8
Tetrabromo-cyclo-octane	31454-48-5
Tetrabromophthalic acid Na salt	25357-79-3
Tetrabromophthalic anhydride	632-79-1
Tris(2,3-dibromopropyl) phosphate	126-72-7
Other brominated flame retardants	—

Table AB— Phthalates (other than certain phthalates)

Phthalates (other than certain phthalates)	EC Numbers	CAS Numbers
Bis(2-methoxyethyl) phthalate	204-212-6	117-82-8
1,2-Benzenedicarboxylic acid, di-C7-11-branched and linear alkyl esters (DHNU)	271-084-6	68515-42-4
1,2-Benzenedicarboxylic acid, di-C6-8-branched alkyl esters, C7-rich (DIHP)	276-158-1	71888-89-6
1,2-Benzenedicarboxylic acid, dipentylester, branched and linear	284-032-2	84777-06-0
Dipentyl phthalate (DPP)	205-017-9	131-18-0

Phthalates (other than certain phthalates)	EC Numbers	CAS Numbers
N-pentyl-isopentylphthalate		776297-69-9
Diisopentylphthalate (DIPP)	210-088-4	605-50-5
1,2-Benzenedicarboxylic acid, dihexyl ester, branched and linear	271-093-5	68515-50-4
Dihexyl phthalate	201-559-5	84-75-3
1,2-Benzenedicarboxylic acid, di-C6-10-alkyl esters; 1,2-Benzenedicarboxylic acid, mixed decyl and hexyl and octyl diesters with $\geq 0.3\%$ of dihexyl phthalate (EC No. 201-559-5)	271-094-0 272-013-1	68515-51-5 68648-93-1
Dicyclohexyl phthalate (DCHP)	201-545-9	84-61-7
Other phthalates		—

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

Table AC – Anthracene and Anthracene oil

Anthracene and Anthracene oil	CAS Numbers
Anthracene	120-12-7
Anthracene oil	90640-80-5
Anthracene oil, anthracene-low	90640-82-7
Anthracene oil, anthracene paste	90640-81-6
Anthracene oil, anthracene paste, anthracene fraction	91995-15-2
Anthracene oil, anthracene paste, distn. lights	91995-17-4

Table AD – Cobalt compounds

Cobalt compounds	CAS Numbers
Cobalt chloride	7646-79-9
Cobalt sulfate	10124-43-3
Cobalt nitrate	10141-05-6
Cobalt carbonate	513-79-1
Cobalt acetate	71-48-7
Other cobalt compounds	—

Table AE – Antimony/Antimony compounds

Antimony/Antimony compounds	CAS Numbers
Antimony	7440-36-0
Diantimony trioxide	1309-64-4
Stibine (Antimonous hydride)	7803-52-3
Other antimony compounds	—

Table AF – Boric Acid and Boron compounds

Boric Acid and Boron compounds	EC Numbers	CAS Numbers
Boric acid	233-139-2 234-343-4	10043-35-3 11113-50-1
Diboron trioxide (Boric oxide)		1303-86-2
Disodium tetraborate decahydrate		1303-96-4
Disodium tetraborate anhydrous	215-540-4	1330-43-4
Disodium tetraborate pentahydrate		12179-04-3
Tetraboron disodium heptaoxide hydrate	235-541-3	12267-73-1
Sodium peroxometaborate	231-556-4	7632-04-4
Sodium perborate (Perboric acid)	239-172-9 234-390-0	—
Disodium octaborate	234-541-0	12008-41-2
Dibutyltin hydrogen borate (DBB)	401-040-5	75113-37-0
Other borate		—

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

Table AG – Dibutyltin (DBT) compounds

Dibutyltin compounds (DBT)	CAS Numbers
Dibutyltin oxide	818-08-6
Dibutyltin diacetate	1067-33-0
Dibutyltin dilaurate	77-58-7
Dibutyltin maleate	78-04-6
Dibutyltin dichloride (DBTC)	683-18-1

Dibutyltin compounds (DBT)	CAS Numbers
Other dibutyltin compounds	—

Table AH – Dioctyltin (DOT) compounds

Dioctyltin compounds (DOT)	CAS Numbers
Dioctyltin oxide	870-08-6
Dioctyltin dilaurate	3648-18-8
Other dioctyltin compounds	—

Table AI – Chlorinated flame retardants

Chlorinated flame retardants	CAS Numbers
2,2-Bis(chloromethyl)trimethylene bis(bis(2-chloroethyl)phosphate)	38051-10-4
Tris(2-chloro-1-methylethyl) phosphate	13674-84-5
2,2-Bis(bromomethyl)-3-chloropropyl bis[2-chloro-1-(chloromethyl)ethyl] phosphate	66108-37-0
Other chlorinated flame retardants	—

Note : Regulated chlorinated flame retardants are not listed in the Chlorinated flame retardant table above and are listed in separate tables. Example : Short-chain chlorinated paraffins and TCEP , etc.

Table AJ – (PVC) Polyvinyl chloride & PVC copolymers

Polyvinyl chloride	CAS Numbers
Polyvinyl chloride (PVC)	9002-86-2
Other polyvinyl chlorides and PVC copolymers	—

Table AK – Polycyclic aromatic hydrocarbons

Polycyclic aromatic hydrocarbons	CAS Numbers
Polycyclic aromatic hydrocarbons (PAH)	—
Benzo[a]pyrene (BaP)	50-32-8
Benzo[e]pyrene (BeP)	192-97-2
Anthracene	120-12-7
Benz[a]anthracene (BaA)	56-55-3
Chrysene (CHR)	218-01-9
Benzo[j]fluoranthene (BjFA)	205-82-3
Benzo[k]fluoranthene (BkFA)	207-08-9
Dibenz[a,h]anthracene (DBAhA)	53-70-3
Benzo[b]fluoranthene (BbFA)	205-99-2
Benzo[ghi]perylene	191-24-2

Table AL – Benzotriazole compounds

Benzotriazole compounds	CAS Numbers
2,4-Di-tert-butyl-6-(5-chlorobenzotriazol-2-yl)phenol (UV-327)	3864-99-1
2-(3,5-Di-tert-amyl-2-hydroxyphenyl)benzotriazole (UV-328)	25973-55-1
2-(2H-Benzotriazol-2-yl)-4-(tert-butyl)-6-(sec-butyl)phenol (UV-350)	36437-37-3

Table AM—SVHC substances regulated under REACH

* Although the followings are the subjected substances as of January 2019, the scope will include substances that to be added afterwards.

Please check the updated information from web sites indicated below.

<http://echa.europa.eu/candidate-list-table>

No.	SVHC	EC Numbers	CAS Numbers
1	2,2-bis(4'-hydroxyphenyl)-4-methylpentane	401-720-1	6807-17-6
2	Benzo[k]fluoranthene	205-916-6	207-08-9
3	Fluoranthene	205-912-4	206-44-0
4	Phenanthrene	201-581-5	85-01-8
5	Pyrene	204-927-3	129-00-0
6	1,7,7-trimethyl-3-(phenylmethylene)bicyclo[2.2.1]heptan-2-one	239-139-9	15087-24-8
7	Benzo[ghi]perylene	205-883-8	191-24-2
8	Decamethylcyclopentasiloxane (D5)	208-764-9	541-02-6
9	Disodium octaborate	234-541-0	12008-41-2
10	Dodecamethylcyclohexasiloxane (D6)	208-762-8	540-97-6
11	Ethylenediamine (EDA)	203-468-6	107-15-3
12	Lead	231-100-4	7439-92-1
13	Octamethylcyclotetrasiloxane (D4)	209-136-7	556-67-2
14	Terphenyl hydrogenated	262-967-7	61788-32-7
15	Benzene-1,2,4-tricarboxylic acid 1,2 anhydrid (trimellitic anhydride (TMA))	209-008-0	552-30-7
16	Dicyclohexyl phthalate (DCHP)	201-545-9	84-61-7
17	Chrysene (Benzo[a]phenanthrene)	205-923-4	218-01-9 (1719-03-5)
18	Benz[a]anthracene	200-280-6	56-55-3 (1718-53-2)
19	Cadmium nitrate	233-710-6	10325-94-7 (10022-68-1)
20	Cadmium hydroxide	244-168-5	21041-95-2
21	Cadmium carbonate	208-168-9	513-78-0
22	1,6,7,8,9,14,15,16,17,17,18,18-Dodecachloropentacyclo [12.2.1.16,9.02,13.05,10]octadeca-7,15-diene("Dechlorane Plus"™) [covering any of its individual anti- and syn-isomers or any combination thereof]	—	—
23	Reaction products of 1,3,4-thiadiazolidine-2,5-dithione, formaldehyde and 4-heptylphenol, branched and linear (RP-HP) [with ≥0.1% w/w 4-heptylphenol, branched and linear]	—	—
24	Perfluorohexane-1- sulphonic acid and its salts (PFHxS)	—	—
25	4,4'-Isopropylidenediphenol (Bisphenol A)	201-245-8	80-05-7
26	Nonadecafluorodecanoic acid (PFDA) and its sodium and ammonium salts Nonadecafluorodecanoic acid Sodium nonadecafluorodecanoate Ammonium nonadecafluorodecanoate	206-400-3 — 221-470-5	335-76-2 3830-45-3 3108-42-7
27	p-(1,1-Dimethylpropyl)phenol	201-280-9	80-46-6
28	4-Heptylphenol, branched and linear [substances with a linear and/or branched alkyl chain with a carbon number of 7 covalently bound predominantly in position 4 to phenol, covering also UVCB- and well-defined substances which include any of the individual isomers or a combination thereof]	—	—
29	Benzo[a]pyrene	200-028-5	50-32-8
30	1,3-Propanesultone	214-317-9	1120-71-4
31	2,4-Di-tert-butyl-6-(5-chlorobenzotriazol-2-yl)phenol (UV-327)	223-383-8	3864-99-1
32	2-(2H-Benzotriazol-2-yl)-4-(tert-butyl)-6-(sec-butyl)phenol (UV-350)	253-037-1	36437-37-3
33	Nitrobenzene	202-716-0	98-95-3
34	Perfluorononan-1-oic-acid and its sodium and ammonium salts	206-801-3	375-95-1 21049-39-8 4149-60-4
35	1,2-Benzenedicarboxylic acid, di-C6-10-alkyl esters; 1,2-Benzenedicarboxylic acid, mixed decyl and hexyl and octyl diesters with ≥ 0.3% of dihexyl phthalate (EC No. 201-559-5)	271-094-0 272-013-1	68515-51-5 68648-93-1

No.	SVHC	EC Numbers	CAS Numbers
36	5-sec-Butyl-2-(2,4-dimethylcyclohex-3-en-1-yl)-5-methyl-1,3-dioxane [1],5-sec-Butyl-2-(4,6-dimethylcyclohex-3-en-1-yl)-5-methyl-1,3-dioxane[2] [covering any of the individual stereoisomers of [1] and [2] or any combination thereof]	—	—
37	2-(2H-Benzotriazol-2-yl)-4,6-ditertpentylphenol (UV-328)	247-384-8	25973-55-1
38	2-Benzotriazol-2-yl-4,6-di-tert-butylphenol (UV-320)	223-346-6	3846-71-7
39	2-Ethylhexyl 10-ethyl-4,4-dioctyl-7-oxo-8-oxa-3,5-dithia-4-stannatetradecanoate (DOTE)	239-622-4	15571-58-1
40	Cadmium fluoride	232-222-0	7790-79-6
41	Cadmium sulphate	233-331-6	10124-36-4 31119-53-6
42	Reaction mass of 2-Ethylhexyl 10-ethyl-4,4-dioctyl-7-oxo-8-oxa-3,5-dithia-4-stannatetradecanoate and 2-Ethylhexyl 10-ethyl-4-[[2-[(2-ethylhexyl)oxy]-2-oxoethyl]thio]-4-octyl-7-oxo-8-oxa-3,5-dithia-4-stannatetradecanoate (reaction mass of DOTE and MOTE)	—	—
43	1,2-Benzenedicarboxylic acid, dihexyl ester, branched and linear (DIHP)	271-093-5	68515-50-4
44	Sodium perborate, perboric acid, sodium salt	239-172-9 234-390-0	—
45	Sodium peroxometaborate	231-556-4	7632-04-4
46	Cadmium chloride	233-296-7	10108-64-2
47	Cadmium sulphide	215-147-8	1306-23-6
48	Disodium 4-amino-3-[[4'-(2,4-diaminophenyl)azo][1,1'-biphenyl]-4-yl]azo]-5-hydroxy-6-(phenylazo)naphthalene-2,7-disulphonate (C.I. Direct Black 38)	217-710-3	1937-37-7
49	Dihexyl phthalate	201-559-5	84-75-3
50	Imidazolidine-2-thione (2-Imidazoline-2-thiol)	202-506-9	96-45-7
51	Trixylyl phosphate	246-677-8	25155-23-1
52	Disodium 3,3'-[[1,1'-biphenyl]-4,4'-diylbis(azo)]bis(4-aminonaphthalene-1-sulphonate) (C.I. Direct Red 28)	209-358-4	573-58-0
53	Lead di(acetate)	206-104-4	301-04-2
54	Cadmium	231-152-8	7440-43-9
55	Ammonium pentadecafluorooctanoate (APFO)	223-320-4	3825-26-1
56	Pentadecafluorooctanoic acid (PFOA)	206-397-9	335-67-1
57	Dipentyl phthalate (DPP)	205-017-9	131-18-0
58	4-Nonylphenol, branched and linear, ethoxylated [substances with a linear and/or branched alkyl chain with a carbon number of 9 covalently bound in position 4 to phenol, ethoxylated covering UVCB- and well-defined substances, polymers and homologues, which include any of the individual isomers and/or combinations thereof]	—	—
59	Cadmium oxide	215-146-2	1306-19-0
60	Pyrochlore, antimony lead yellow	232-382-1	8012-00-8
61	6-Methoxy-m-toluidine (p-Cresidine)	204-419-1	120-71-8
62	Henicosafuoroundecanoic acid	218-165-4	2058-94-8
63	Hexahydromethylphthalic anhydride [1], Hexahydro-4-methylphthalic anhydride [2], Hexahydro-1-methylphthalic anhydride [3], Hexahydro-3-methylphthalic anhydride [4] [The individual isomers [2], [3] and [4] (including their cis- and trans- stereo isomeric forms) and all possible combinations of the isomers [1] are covered by this entry]	247-094-1 243-072-0 256-356-4 260-566-1	25550-51-0 19438-60-9 48122-14-1 57110-29-9
64	Cyclohexane-1,2-dicarboxylic anhydride [1], cis-Cyclohexane-1,2-dicarboxylic anhydride [2], trans-Cyclohexane-1,2-dicarboxylic anhydride [3] [The individual cis- [2] and trans- [3] isomer substances and all possible combinations of the cis- and trans-isomers [1] are covered by this entry]	201-604-9 236-086-3 238-009-9	85-42-7 13149-00-3 14166-21-3
65	Dibutyltin dichloride (DBTC)	211-670-0	683-18-1
66	Lead bis(tetrafluoroborate)	237-486-0	13814-96-5
67	Lead dinitrate	233-245-9	10099-74-8
68	Silicic acid, lead salt	234-363-3	11120-22-2
69	4-Aminoazobenzene	200-453-6	60-09-3
70	Lead titanium zirconium oxide	235-727-4	12626-81-2
71	Lead monoxide (Lead oxide)	215-267-0	1317-36-8
72	o-Toluidine	202-429-0	95-53-4
73	3-Ethyl-2-methyl-2-(3-methylbutyl)-1,3-oxazolidine	421-150-7	143860-04-2

No.	SVHC	EC Numbers	CAS Numbers
74	Silicic acid (H ₂ Si ₂ O ₅), barium salt (1:1), lead-doped [with lead (Pb) content above the applicable generic concentration limit for 'toxicity for reproduction' Repr. 1A (CLP) or category 1 (DSD); the substance is a member of the group entry of lead compounds, with index number 082-001-00-6 in Regulation (EC) No 1272/2008]	272-271-5	68784-75-8
75	Trilead bis(carbonate)dihydroxide	215-290-6	1319-46-6
76	Furan	203-727-3	110-00-9
77	N,N-Dimethylformamide	200-679-5	68-12-2
78	4-(1,1,3,3-Tetramethylbutyl)phenol, ethoxylated [covering well-defined substances and UVCB substances, polymers and homologues]	—	—
79	4-Nonylphenol, branched and linear [substances with a linear and/or branched alkyl chain with a carbon number of 9 covalently bound in position 4 to phenol, covering also UVCB- and well-defined substances which include any of the individual isomers or a combination thereof]	—	—
80	4,4'-Methylenedi-o-toluidine	212-658-8	838-88-0
81	Diethyl sulphate	200-589-6	64-67-5
82	Dimethyl sulphate	201-058-1	77-78-1
83	Lead oxide sulfate	234-853-7	12036-76-9
84	Lead titanium trioxide	235-038-9	12060-00-3
85	Acetic acid, lead salt, basic	257-175-3	51404-69-4
86	[Phthalato(2-)]dioxotrilead	273-688-5	69011-06-9
87	Bis(pentabromophenyl) ether (Decabromodiphenyl ether (DecaBDE))	214-604-9	1163-19-5
88	N-Methylacetamide	201-182-6	79-16-3
89	Dinoseb (6-sec-Butyl-2,4-dinitrophenol)	201-861-7	88-85-7
90	1,2-Diethoxyethane	211-076-1	629-14-1
91	Tetralead trioxide sulphate	235-380-9	12202-17-4
92	N-Pentyl-isopentylphthalate	—	776297-69-9
93	Dioxobis(stearato)trilead	235-702-8	12578-12-0
94	Tetraethyllead	201-075-4	78-00-2
95	Pentalead tetraoxide sulphate	235-067-7	12065-90-6
96	Pentacosafuorotridecanoic acid	276-745-2	72629-94-8
97	Tricosafuorododecanoic acid	206-203-2	307-55-1
98	Heptacosafuorotetradecanoic acid	206-803-4	376-06-7
99	1-Bromopropane (n-Propyl bromide)	203-445-0	106-94-5
100	Methoxyacetic acid	210-894-6	625-45-6
101	4-Methyl-m-phenylenediamine (Toluene-2,4-diamine)	202-453-1	95-80-7
102	Methyloxirane (Propylene oxide)	200-879-2	75-56-9
103	Trilead dioxide phosphonate	235-252-2	12141-20-7
104	o-Aminoazotoluene	202-591-2	97-56-3
105	1,2-Benzenedicarboxylic acid, dipentylester, branched and linear	284-032-2	84777-06-0
106	4,4'-Oxydianiline and its salts	202-977-0	101-80-4
107	Orange lead (Lead tetroxide)	215-235-6	1314-41-6
108	Biphenyl-4-ylamine	202-177-1	92-67-1
109	Diisopentylphthalate (DIPP)	210-088-4	605-50-5
110	Fatty acids, C16-18, lead salts	292-966-7	91031-62-8
111	Diazene-1,2-dicarboxamide (C,C'-Azodi(formamide))	204-650-8	123-77-3
112	Sulfurous acid, lead salt, dibasic	263-467-1	62229-08-7
113	Lead cyanamidate	244-073-9	20837-86-9
114	[4-[4,4'-Bis(dimethylamino) benzhydrylidene]cyclohexa-2,5-dien-1-ylidene]dimethylammonium chloride (C.I. Basic Violet 3) [with ≥ 0.1% of Michler's ketone (EC No. 202-027-5) or Michler's base (EC No. 202-959-2)]	208-953-6	548-62-9
115	1,3,5-Tris[(2S and 2R)-2,3-epoxypropyl]-1,3,5-triazine-2,4,6-(1H,3H,5H)-trione (β-TGIC)	423-400-0	59653-74-6
116	1,2-Bis(2-methoxyethoxy)ethane (TEGDME; Triglyme)	203-977-3	112-49-2
117	4,4'-Bis(dimethylamino)-4''-(methylamino)trityl alcohol [with ≥ 0.1% of Michler's ketone (EC No. 202-027-5) or Michler's base (EC No. 202-959-2)]	209-218-2	561-41-1
118	Lead(II) bis(methanesulfonate)	401-750-5	17570-76-2
119	1,2-Dimethoxyethane; ethylene glycol dimethyl ether (EGDME)	203-794-9	110-71-4
120	Diboron trioxide	215-125-8	1303-86-2
121	α,α-Bis[4-(dimethylamino)phenyl]-4 (phenylamino)naphthalene-1-methanol (C.I. Solvent Blue 4) [with ≥ 0.1% of Michler's ketone (EC No. 202-027-5) or Michler's base (EC No. 202-959-2)]	229-851-8	6786-83-0
122	1,3,5-Tris(oxiran-2-ylmethyl)-1,3,5-triazinane-2,4,6-trione (TGIC)	219-514-3	2451-62-9

No.	SVHC	EC Numbers	CAS Numbers
123	4,4'-Bis(dimethylamino)benzophenone (Michler's ketone)	202-027-5	90-94-8
124	N,N,N',N'-Tetramethyl-4,4'-methylenedianiline (Michler's base)	202-959-2	101-61-1
125	[4-[[4-Anilino-1-naphthyl][4-(dimethylamino)phenyl]methylene]cyclohexa-2,5-dien-1-ylidene] dimethylammonium chloride (C.I. Basic Blue 26) [with ≥ 0.1% of Michler's ketone (EC No. 202-027-5) or Michler's base (EC No. 202-959-2)]	219-943-6	2580-56-5
126	Formamide	200-842-0	75-12-7
127	4-(1,1,3,3-Tetramethylbutyl)phenol	205-426-2	140-66-9
128	N,N-Dimethylacetamide	204-826-4	127-19-5
129	Phenolphthalein	201-004-7	77-09-8
130	Lead diazide (Lead azide)	236-542-1	13424-46-9
131	Lead dipicrate	229-335-2	6477-64-1
132	Calcium arsenate	231-904-5	7778-44-1
133	1,2-Dichloroethane	203-458-1	107-06-2
134	Dichromium tris(chromate)	246-356-2	24613-89-6
135	2-Methoxyaniline (o-Anisidine)	201-963-1	90-04-0
136	Pentazinc chromate octahydroxide	256-418-0	49663-84-5
137	Arsenic acid	231-901-9	7778-39-4
138	Potassium hydroxyoctaoxidizincatedichromate	234-329-8	11103-86-9
139	Formaldehyde, oligomeric reaction products with aniline	500-036-1	25214-70-4
140	Lead styphnate	239-290-0	15245-44-0
141	Trilead diarsenate	222-979-5	3687-31-8
142	Zirconia Aluminosilicate Refractory Ceramic Fibres are fibres covered by index number 650-017-00-8 in Annex VI, part 3, table 3.1 of Regulation (EC) No 1272/2008 of the European Parliament and of the Council of 16 December 2008 on classification, labelling and packaging of substances and mixtures, and fulfil the three following conditions: a) oxides of aluminium, silicon and zirconium are the main components present (in the fibres) within variable concentration ranges b) fibres have a length weighted geometric mean diameter less two standard geometric errors of 6 or less micrometres (micro m). c) alkaline oxide and alkali earth oxide (Na ₂ O+K ₂ O+CaO+MgO+BaO) content less or equal to 18% by weight	—	—
143	Aluminosilicate Refractory Ceramic Fibres are fibres covered by index number 650-017-00-8 in Annex VI, part 3, table 3.1 of Regulation (EC) No 1272/2008 of the European Parliament and of the Council of 16 December 2008 on classification, labelling and packaging of substances and mixtures, and fulfil the three following conditions: a) oxides of aluminium and silicon are the main components present (in the fibres) within variable concentration ranges b) fibres have a length weighted geometric mean diameter less two standard geometric errors of 6 or less micrometres (micro m) c) alkaline oxide and alkali earth oxide (Na ₂ O+K ₂ O+CaO+MgO+BaO) content less or equal to 18% by weight	—	—
144	Bis(2-methoxyethyl) phthalate	204-212-6	117-82-8
145	Bis(2-methoxyethyl) ether	203-924-4	111-96-6
146	2,2'-Dichloro-4,4'-methylenedianiline	202-918-9	101-14-4
147	Cobalt dichloride	231-589-4	7646-79-9
148	1,2-Benzenedicarboxylic acid, di-C6-8-branched alkyl esters, C7-rich	276-158-1	71888-89-6
149	Strontium chromate	232-142-6	7789-06-2
150	1,2-Benzenedicarboxylic acid, di-C7-11-branched and linear alkyl esters	271-084-6	68515-42-4
151	N-Methyl-2-pyrrolidone	212-828-1	872-50-4
152	1,2,3-Trichloropropane	202-486-1	96-18-4
153	2-Ethoxyethyl acetate	203-839-2	111-15-9
154	Hydrazine	206-114-9	302-01-2 7803-57-8
155	Cobalt(II) diacetate	200-755-8	71-48-7
156	Cobalt(II) sulphate	233-334-2	10124-43-3
157	2-Ethoxyethanol	203-804-1	110-80-5
158	2-Methoxyethanol	203-713-7	109-86-4
159	Chromium trioxide	215-607-8	1333-82-0
160	Acids generated from chromium trioxide and their oligomers. Group containing: Chromic acid, Dichromic acid, Dichromic acid, Oligomers of chromic acid and dichromic acid	231-801-5 236-881-5	7738-94-5 13530-68-2

No.	SVHC	EC Numbers	CAS Numbers
161	Cobalt(II) carbonate	208-169-4	513-79-1
162	Cobalt(II) dinitrate	233-402-1	10141-05-6
163	Trichloroethylene	201-167-4	79-01-6
164	Potassium dichromate	231-906-6	7778-50-9
165	Tetraboron disodium heptaoxide, hydrate	235-541-3	12267-73-1
166	Ammonium dichromate	232-143-1	7789-09-5
167	Boric acid	233-139-2 234-343-4	10043-35-3 11113-50-1
168	Sodium chromate	231-889-5	7775-11-3
169	Disodium tetraborate, anhydrous	215-540-4	1303-96-4 1330-43-4 12179-04-3
170	Potassium chromate	232-140-5	7789-00-6
171	Acrylamide	201-173-7	79-06-1
172	Lead sulfochromate yellow (C.I. Pigment Yellow 34)	215-693-7	1344-37-2
173	Lead chromate molybdate sulphate red (C.I. Pigment Red 104)	235-759-9	12656-85-8
174	Anthracene oil	292-602-7	90640-80-5
175	2,4-Dinitrotoluene	204-450-0	121-14-2
176	Anthracene oil, anthracene paste, anthracene fraction	295-275-9	91995-15-2
177	Anthracene oil, anthracene-low	292-604-8	90640-82-7
178	Tris(2-chloroethyl)phosphate	204-118-5	115-96-8
179	Diisobutyl phthalate	201-553-2	84-69-5
180	Lead chromate	231-846-0	7758-97-6
181	Anthracene oil, anthracene paste	292-603-2	90640-81-6
182	Pitch, coal tar, high temp.	266-028-2	65996-93-2
183	Anthracene oil, anthracene paste, distn. lights	295-278-5	91995-17-4
184	Lead hydrogen arsenate	232-064-2	7784-40-9
185	Benzyl butyl phthalate (BBP)	201-622-7	85-68-7
186	Bis (2-ethylhexyl)phthalate (DEHP)	204-211-0	117-81-7
187	5-Tert-butyl-2,4,6-trinitro-m-xylene (Musk xylene)	201-329-4	81-15-2
188	Bis(tributyltin)oxide (TBTO)	200-268-0	56-35-9
189	Diarsenic trioxide	215-481-4	1327-53-3
190	Sodium dichromate	234-190-3	7789-12-0 10588-01-9
191	Triethyl arsenate	427-700-2	15606-95-8
192	Diarsenic pentaoxide	215-116-9	1303-28-2
193	Dibutyl phthalate (DBP)	201-557-4	84-74-2
194	4,4'- Diaminodiphenylmethane (MDA)	202-974-4	101-77-9
195	Alkanes, C10-13, chloro (Short Chain Chlorinated Paraffins)	287-476-5	85535-84-8
196	Anthracene	204-371-1	120-12-7
197	Hexabromocyclododecane (HBCDD) and all major diastereoisomers identified: Alpha-hexabromocyclododecane Beta-hexabromocyclododecane Gamma-hexabromocyclododecane	247-148-4 221-695-9	25637-99-4 3194-55-6 (134237-50-6) (134237-51-7) (134237-52-8)