

NAMICS Green Procurement Standards Environmentally hazardous chemical substances list Ver.18

No. 9740L024QA
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Table-1 Regulated substances

Reference No	Substances Name	CAS No.	Regulated Level	Scope	Allowable concentration	Analyzed target	Laws and regulations
P1001	Cadmium and its compounds	-	Level 1	Parts composed of metals containing zinc (e.g. brass, hot dip galvanizing, etc.)	Less than 100 ppm	Raw materials, Other materials	EU RoHS Directive (EU)2015/863 Customer requirements
				All uses other than the above column	Less than 5ppm	Raw materials, Other materials	
P1002	Lead and its compounds	-	Level 1	Parts composed of metals containing tin (e.g. solder, etc.)	Equal to or less than 500ppm	Raw materials, Other materials	EU RoHS Directive (EU)2015/863 Customer requirements
				All uses other than the above column, glass, and glass matrix compound.	Less than 100ppm		
M001	Lead and its compounds	-	Managed Substances	Glass, glass matrix compound	-	Raw materials, Other materials	
P1003	Mercury and its compounds	-	Level 1	All uses	Less than 2ppm	Raw materials, Other materials	EU RoHS Directive (EU)2015/863 Customer requirements
P1004	Hexavalent chromium compounds	-	Level 1	All uses	Less than 10ppm	Raw materials, Other materials	EU RoHS Directive (EU)2015/863 Customer requirements
P1005	Total-concentration of four heavy metals (cadmium, lead, mercury, and hexavalent chromium) contained in packaging components and materials	-	Level 1	All indirect materials	"Less than 50 ppm" is determined as the allowable total-concentration of four heavy metals (cadmium, lead, mercury, and hexavalent chromium) contained in each part, ink, or paint that constitutes a package.	Indirect materials	EU Directive 94/62/EC on packing and packing waste and its amendments
P1006	Polybrominated biphenyls (PBB)	-	Level 1	All uses	Less than 1000ppm	All materials	EU RoHS Directive (EU)2015/863 Customer requirements
P1007	Polybrominated diphenylethers (PBDE) (including decabromodiphenyl ether [DecaBDE])	-	Level 1	All uses	Less than 1000ppm	All materials	EU RoHS Directive (EU)2015/863 Customer requirements
P1008	Hexabromocyclododecane (HBCDD)	25637-99-4 3194-55-6 134237-50-6 134237-51-7 134237-52-8	Level 1	All uses	Less than 50ppm	-	EU REACH Regulation(EC) No.1907/2006 The Stockholm Convention on POPs (EC) No 850/2004
P1009	Polychlorinated biphenyls (PCB)	-	Level 1	All uses	Less than 50ppm	-	Japan Chemical Substances Control Law
P1010	Polychlorinated naphthalenes (PCN)	-	Level 1	All uses	Less than 1000ppm	-	Japan Chemical Substances Control Law
P1011	Polychlorinated terphenyls (PCT)	-	Level 1	All uses	Less than 50ppm	-	EU REACH Regulation(EC) No.1907/2006 Annex X VII
P1012	Chlorinated paraffins (CP)	85535-84-8 84082-38-2 71011-12-6 85536-22-7 85535-85-9 85535-86-0	Level 1	All uses	Less than 1000ppm	-	EU-POPs Regulation(EC) No 850/2004 Customer requirements
P1013	Polyvinyl chloride (PVC) and PVC blends	-	Level 1	All uses (Exemption-Insulating tapes)	Less than 1000ppm	-	EU REACH Regulation(EC) No.1907/2006 Annex X VII
P1014	Hydrofluorocarbon (HFC), Perfluorocarbon (PFC), Sulfur hexafluoride(SF6)	-	Level 1	All uses	Less than 1000ppm	-	EU Regulation (EC) No.842/2006
P1015	Ozone depleting substances (ODS)	-	Level 1	All uses	Less than 1000ppm	-	EU Regulation (EC) No.2037/2000
P1016	Hydrochlorofluorocarbon (HCFC)	-	Level 1	All uses	Less than 1000ppm	-	EU Regulation (EC) No.1005/2009
P1017	Perfluorooctane sulfonates (PFOS)	-	Level 1	All uses	Less than 1000ppm	-	EU REACH Regulation(EC) No.1907/2006 Annex X VII
P1018	Perfluorooctanoic Acid (PFOA) and individual salts and related substances of PFOA	refer to Appendix-1.1	Level 1	All uses	0.0000025 wt% (25ppb) total sum of PFOA, and its individual salts and related substances.	-	Norway Product regulations Customer requirements
P1021	Beryllium oxide	-	Level 1	All uses	Less than 1000ppm	-	EU WEEE Directive 2002/96/EC
P1022	Cobalt dichloride	7646-79-9	Level 1	All uses	Less than 1000ppm	-	EU REACH Regulation(EC) No.1907/2006 Annex X VII
P1023	Arsenic and its compounds	-	Level 1	All uses	Less than 1000ppm	-	EU REACH Regulation(EC) No.1907/2006 Customer requirements
P1024	Asbestos	-	Level 1	All uses	Less than 1000ppm	-	Germany Chemicals Prohibition Ordinance
P1025	Specific azo compounds (Azodyes that form specific amine compounds and specific amine compounds.)	refer to Appendix-1.2	Level 1	All uses	Less than 30ppm	-	EU REACH Regulation(EC) No.1907/2006 Annex X VII

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Table-1 Regulated substances

Reference No	Substances Name	CAS No.	Regulated Level	Scope	Allowable concentration	Analyzed target	Laws and regulations
P1026	Formaldehyde	50-00-0	Level 1	The wooden products made from fiberboard, particleboard, or plywood, which are employed in products (e.g. speakers and racks)	[With a chamber method] Concentration in the air: Equal to or less than 0.1 ppm	—	Germany Chemicals Prohibition Ordinance
R001	Formaldehyde	50-00-0	Reduced Substances	All uses other than the above column	—	—	
P1027	Benzenamine, N-phenyl-, reaction products with styrene and 2,4,4-trimethylpentene (BNST)	68921-45-9	Level 1	All uses	—	—	Canada Prohibition of Certain Toxic Substances Regulations
P1029	Dimethyl fumarate (DMF)	624-49-7	Level 1	All uses	Less than 0.1ppm	—	EU REACH Regulation(EC) No.1907/2006
P1030	Specific Polycyclic aromatic hydrocarbons (PAHs)	refer to Appendix-1.3	Level 1	All uses	Less than 1ppm	—	EU REACH Regulation(EC) No.1907/2006 Annex X VIII Customer requirements
P1031	Benzene	71-43-2	Level 1	All uses	Less than 1000ppm	—	EU REACH Regulation(EC) No.1907/2006 Annex X VIII
P1032	Hexachlorobenzene	118-74-1	Level 1	All uses	Less than 1000ppm	—	EU POPs Regulation Annex I
P1033	Conflict Minerals (Gold, Tin, Tantalum and Tungsten which are produced from the Democratic Republic of the Congo or any adjoining countries ("DRC Countries"))	—	Level 1	All uses	Not intentionally added	—	US Financial Regulatory Reform
P1034	Radioactive substances [Uranium (U), Plutonium (Pu), Radon (Rn),Americium (Am), Thorium(Th) , Cesium(Cs) , Strontium (Sr),etc]	—	Level 1	All uses	Less than 1000ppm	—	Japan Laws Concerning the Prevention from Radiation Hazards due to Radioisotopes and Others
P1035	Red phosphorus / Yellow phosphorus	—	Level 1	All uses	Less than 1000ppm	—	Customer requirements
P1036	Specific phthalates (DEHP/DBP/BBP/DIBP)	refer to Appendix-1.4	Level 1	All uses	Less than 50ppm	All materials	EU RoHS Directive (EU)2015/863 Customer requirements
P1037	Tris(2-chloroethyl) phosphate (TCEP) Tris (1-chloro-2-propyl) phosphate (TCPP) Tris(1,3-dichloro-2-propyl)phosphate (TDCPP)	115-96-8 13674-84-5 13674-87-8	Level 1	All uses	Less than 1000ppm	—	EU REACH Regulation(EC) No.1907/2006 Customer requirements
P1038	Perfluorohexanoic acid (PFHxA) and its salts and related substances	—	Level 1	All uses	Not intentionally added	—	Customer requirements
P1039	Decabromodiphenylethane (DBDPE)	84852-53-9	Level 1	All uses	Not intentionally added	—	Customer requirements
P1040	1,6,7,8,9,14,15,16,17,18,18-Dodecachloropentacyclo[12.2.1.16.9.0 2,13.05,10]octadeca-7,15-diene ("Dechlorane Plus"™)	—	Level 1	All uses	Not intentionally added	—	Customer requirements
P1041	Long-chain perfluoroalkyl carboxylate (LCPFACs) and perfluoroalkyl sulfonate chemicals	—	Level 1	All uses	Not intentionally added	—	Customer requirements
P1042	TSCA Priority chemicals (PBT, First 10 Chemical Substances)	refer to Appendix-1.5	Level 1	All uses	Not intentionally added	—	Customer requirements
P1043	Acrylamide (monomer)	79-06-1	Level 1	All uses	Less than 5ppm	—	Customer requirements
P1044	Dioxins and Furans	refer to Appendix-1.6	Level 1	All uses	Not intentionally added	—	Customer requirements
P1045	Chlorinated Phenols	25167-82-2 25167-83-3 87-86-5	Level 1	All uses	Less than 0.1ppm	—	Customer requirements
P1046	Colorants	refer to Appendix-1.7	Level 1	All uses	Less than 20ppm	—	Customer requirements
P1047	Biocides	refer to Appendix-1.8	Level 1	All uses	Less than 100ppm	—	Customer requirements
P1048	Methyl-phenol compounds	95-48-7 106-44-5 108-39-4 1319-77-3	Level 1	All uses	Less than 10 ppm total content	—	Customer requirements
P1049	Pesticides	refer to Appendix-1.9	Level 1	All uses	Less than 0.5 ppm total sum of pesticides	—	Customer requirements
P1050	UV stabilizers	3846-71-7 3864-99-1 25973-55-1 36437-37-3	Level 1	All uses	Less than 1000ppm	—	Customer requirements
P2001	Organotin Compounds	refer to Appendix-1.10	Level 2	All uses	Less than 1000 ppm total content	—	Customer requirements

Table-2 Reduced substances

Reference No	Substances Name	CAS No.	Regulated Level	Scope	Allowable concentration	Analyzed target	Laws and regulations
R002	Beryllium copper	—	Reduced Substances	All uses	1000 ppm	—	Customer requirements
R003	Other phthalates (Exemption-Regulated Substances)	refer to Appendix-2.1	Reduced Substances	All uses	1000 ppm	—	Customer requirements
R004	Boric acid, Specific sodium borates	refer to Appendix-2.2	Reduced Substances	All uses	1000 ppm	—	EU REACH Regulation(EC) No.1907/2006
R005	4-(1,1,3,3-tetramethylbutyl) phenol	140-66-9	Reduced Substances	All uses	1000 ppm	—	EU REACH Regulation(EC) No.1907/2006
R006	Bis(2-methoxyethyl) ether	111-96-6	Reduced Substances	All uses	1000 ppm	—	EU REACH Regulation(EC) Annex X IV
R007	N,N-dimethylacetamide (DMAC)	127-19-5	Reduced Substances	All uses	1000 ppm	—	EU REACH Regulation(EC) No.1907/2006
R008	Ethylene glycol dimethyl ether (EGDME)	110-71-4	Reduced Substances	All uses	1000 ppm	—	EU REACH Regulation(EC) No.1907/2006

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Table-2 Reduced substances

Reference No	Substances Name	CAS No.	Regulated Level	Scope	Allowable concentration	Analyzed target	Laws and regulations
R010	Trixylyl phosphate (TXP)	25155-23-1	Reduced Substances	All uses	1000 ppm	—	EU REACH Regulation(EC) No.1907/2006
R012	2-ethylhexyl 10-ethyl-4,4-dioctyl-7-oxo-8-oxa-3,5-dithia-4-stannatetradecanoate (DOTE)	15571-58-1	Reduced Substances	All uses	1000 ppm	—	EU REACH Regulation(EC) No.1907/2006
R013	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-ethylhexyloxy)-2-oxoethyl]thio]-4-octyl-7-oxo-8-oxa-3,5-dithia-4-stannatetradecanoate (reaction mass of DOTE and MOTE)	—	Reduced Substances	All uses	1000 ppm	—	EU REACH Regulation(EC) No.1907/2006
R015	REACH SVHC (Substances of Very High Concern) *Follow the latest SVHC list https://echa.europa.eu/candidate-list-table		Reduced Substances	All uses	1000 ppm	—	EU REACH Regulation(EC) Customer requirements
R016	Substances containing at least one aliphatic -CF2 or -CF3	—	Reduced Substances	All uses	1000 ppm	—	Customer requirements
R017	Acrylates	refer to Appendix-2.3	Reduced Substances	All uses	50ppm	—	Customer requirements
R018	Alkylphenol Ethoxylates and Alkylphenols(APEO/AP)	refer to Appendix-2.4	Reduced Substances	All uses	Less than 100 ppm total sum of Alkylphenol Ethoxylates and Alkylphenols(APEO/AP)	—	Customer requirements
R019	Bisphenols (Bisphenol A, Bisphenol F, Bisphenol S)	80-05-7 620-92-8 2467-02-9 1333-16-0 80-09-1	Reduced Substances	All uses	20ppm	—	Customer requirements
R020	Epichlorohydrin, residual	106-89-8	Reduced Substances	All uses	1000 ppm	—	Customer requirements
R021	Glycidyl ether monomers	refer to Appendix-2.5	Reduced Substances	All uses	1000 ppm	—	Customer requirements
R022	Methacrylates	79-41-4 80-62-6 97-63-2 97-88-1	Reduced Substances	All uses	1000 ppm	—	Customer requirements
R023	Solvents	refer to Appendix-2.6	Reduced Substances	All uses	0.1ppm	—	Customer requirements
R024	Diphenylamine	122-39-4	Reduced Substances	All uses	20ppm	—	Customer requirements
R025	Halogenated Diphenyl Methanes	refer to Appendix-2.7	Reduced Substances	All uses	Less than 1ppm	—	Customer requirements
R026	Diphenylthiourea	102-08-9	Reduced Substances	All uses	Not intentionally added	—	Customer requirements
R027	Estragole	140-67-0	Reduced Substances	All uses	Not intentionally added	—	Customer requirements
R028	Hexamethylenetetramine	100-97-0	Reduced Substances	All uses	Less than 100ppm	—	Customer requirements
R029	Mercaptobenzothiazole (2-MBT)	149-30-4	Reduced Substances	All uses	Less than 25ppm	—	Customer requirements
R030	N-Nitrosamines	refer to Appendix-2.8	Reduced Substances	All uses	Less than 0.5ppm	—	Customer requirements
R031	Perchlorates	7601-89-0 7778-74-7 7790-98-9 7791-03-9 10034-81-8	Reduced Substances	All uses	Less than 0.1 ppm total sum of perchlorates	—	Customer requirements
R032	2-Phenyl-2-propanol	617-94-7	Reduced Substances	All uses	Less than 75ppm	—	Customer requirements
R033	n-Hexane	110-54-3	Reduced Substances	All uses	Less than 1000ppm	—	Customer requirements

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Table-3 Managed Substances
***M001 : Please refer to Table-1. M002, M004: Missing number.**

Reference No	Substances Name	CAS No.	Classification	Scope	Allowable concentration	Analyzed target	Laws and regulations
M003	Other Polycyclic aromatic hydrocarbons (PAHs) (Exemption-Regulated Substances)	refer to Appendix-3.1	Managed Substances	All uses	—	—	Customer requirements
M004	Antimony and its compounds	—	Managed Substances	All uses	—	—	Customer requirements
M006	Beryllium and its compounds (Exemption - Beryllium oxide and Beryllium copper)	—	Managed Substances	All uses	—	—	Customer requirements
M007	Bismuth and its compounds	—	Managed Substances	All uses	—	—	Customer requirements
M008	Other brominated organic compounds (Exemption - PBB,PBDE)	—	Managed Substances	All uses	—	—	Customer requirements
M009	Other chlorinated organic compounds (Exemption-PCB, PCN,PCT,SCCP)	—	Managed Substances	All uses	—	—	Customer requirements
M010	Cobalt and its compounds (Exemption - Cobalt dichloride)	—	Managed Substances	All uses	—	—	Customer requirements
M011	Fluoride and its compounds excluding the regulated substances specified by these standards	—	Managed Substances	All uses	—	—	Customer requirements
M012	Iodine and its compounds excluding the regulated substances specified by these standards	—	Managed Substances	All uses	—	—	Customer requirements
M013	chemSHERPA Declarable Substance Ver. (latest Version) excluding the regulated substances specified by these standards	refer to Appendix-3.2	Managed Substances	All uses	—	—	Joint Article Management Promotion-consortium (JAMP)
M014	Low molecular siloxane (≤ 20 mer)	—	Managed Substances	All uses	—	—	Customer requirements
M015	Nanomaterials (Particle size : 1~100nm)	—	Managed Substances	All uses	—	—	Customer requirements
M016	Phosphorus and its compounds (Exemption-Red / Yellow phosphorus)	—	Managed Substances	All uses	—	—	Customer requirements
M017	Cyan compounds	—	Managed Substances	All uses	—	—	Customer requirements
M018	Sulfur and its compounds	—	Managed Substances	All uses	—	—	Customer requirements
M019	Zinc and its compounds	—	Managed Substances	All uses	—	—	Customer requirements
M020	Titanium and its compounds	—	Managed Substances	All uses	—	—	Customer requirements
M021	Volatile organic compounds (VOCs)	refer to Appendix-3.3	Managed Substances	All uses	—	—	Customer requirements
M022	Rare metal	—	Managed Substances	All uses	—	—	Customer requirements
M023	Halogenated flame retardants (other than brominated and chlorinated flame retardants)	—	Managed Substances	All uses	—	—	Customer requirements
M024	Long-chain (C9-C20) perfluorocarboxylic acids (PFCAs) and its salts and related substances	—	Managed Substances	All uses	—	—	Customer requirements
M025	TSCA Priority chemicals (20 High-Priority Substances)	refer to Appendix-3.4	Managed Substances	All uses	—	—	Customer requirements
M026	Perfluorohexanoic acid (PFHxA) and its salts and related substances	—	Managed Substances	All uses	—	—	Customer requirements
M027	Barium, soluble compounds (as Ba)	—	Managed Substances	All uses	—	—	Customer requirements
M028	Chromium, extractable (Excluded: Hexavalent chromium)	—	Managed Substances	All uses	—	—	Customer requirements
M029	Isocyanates (monomers)	refer to Appendix-3.5	Managed Substances	All uses	—	—	Customer requirements
M030	Latex, natural rubber	—	Managed Substances	All uses	—	—	Customer requirements
M031	Nickel and its compounds	—	Managed Substances	All uses	—	—	Customer requirements
M032	Mica	—	Managed Substances	All uses (including the case that mica is used as a raw material)	—	—	Customer requirements
M033	Gold, Tin, Tantalum and Tungsten (other than the conflict minerals of P1033)	—	Managed Substances	All uses	—	—	Customer requirements

Appendix-1.1 List of Perfluorooctanoic Acid (PFOA) and individual salts and esters of PFOA

Substances	CAS No.
Pentadecafluorooctanoic acid	335-67-1
Ammonium pentadecafluorooctanoate	3825-26-1
Sodium pentadecafluorooctanoate	335-95-5
Potassium perfluorooctanoate	2395-00-8
Silver(1+) perfluorooctanoate	335-93-3
Pentadecafluorooctyl fluoride	335-66-0
Methyl perfluorooctanoate	376-27-2
Ethyl perfluorooctanoate	3108-24-5
PFOA related substances	-

Appendix-1.2 Specific azo compounds (Azodyes that form specific amine compounds and specific amine compounds)

Substances	CAS No.
4-aminodiphenyl benzidine	92-67-1
4-chloro-o-toluidine; 4-chloro-2-methylaniline	95-69-2
2-naphthylamine	91-59-8
o-aminoazotoluene	97-56-3
2-amino-4-nitrotoluene; 5-nitro-o-toluidine	99-55-8
p-chloroaniline	106-47-8
2,4-diaminoanisole	615-05-4
4,4'-diaminodiphenylmethane; 4,4'-methylenedianiline	101-77-9
3,3'-dichlorobenzidine	91-94-1
3,3'-dimethoxybenzidine	119-90-4
3,3'-dimethylbenzidine	119-93-7
3,3'-dimethyl-4,4'-diaminodiphenylmethane; 4,4'-diamino-3,3'-diphenylmethane	838-88-0
p-cresidine; 6-methoxy-m-toluidine	120-71-8
4,4'-methylene-bis-(2-chloroaniline)	101-14-4
4,4'-oxideaniline	101-80-4
4,4'-thiodianiline; 4,4'-diaminodiphenylsulfide	139-65-1
o-toluidine	95-53-4
2,4-toluylenediamine; 4-methyl-m-phenylenediamine	95-80-7
2,4,5-Trimethylaniline	137-17-7
o-anisidine	90-04-0
4-aminoazobenzene	60-09-3
4-Chloro-2-toluidine hydrochloride	3165-93-3
2,4-Diaminoanisole sulfate	39156-41-7
2-Naphthylamine acetate	553-00-4
2,4,5-Trimethylaniline hydrochloride	21436-97-5
2,4-Xylidine	95-68-1
2,6-Xylidine	87-62-7

Appendix-1.3 List of Specific Polycyclic aromatic hydrocarbons (PAHs)

Substances	CAS No.
Benzo[a]pyrene	50-32-8
Benzo[e]pyrene	192-97-2
Benzo[a]anthracene	56-55-3, 1718-53-2
Chrysene	218-01-9
Benzo[b]fluoranthene	205-99-2
Benzo[j]fluoranthene	205-82-3
Benzo[k]fluoranthene	207-08-9
Dibenzo[a,h]anthracene	53-70-3

Appendix-1.4 List of Specific phthalates (DEHP/DBP/BBP/DIBP)

Substances	CAS No.
Bis (2-ethylhexyl)phthalate; Di (2-ethylhexyl) phthalate	117-81-7
Dibutyl phthalate; Di-n-butyl phthalate	84-74-2
Benzyl butyl phthalate; Butyl benzyl phthalate	85-68-7
Diisobutyl phthalate; Di-i-butyl phthalate	84-69-5

Appendix-1.5 TSCA Priority chemicals (PBT, First 10 Chemical Substances)

Substances	CAS No.
Decabromodiphenyl ether (DecaBDE)	1163-19-5
Phenol, Isopropylated Phosphate (PIP) (3 : 1)	68937-41-7
2, 4, 6 -Tris (tert-butyl) phenol (TTBP)	732-26-3
Pentachlorothiophenol (PCTP)	133-49-3
Hexachlorobutadiene (HCBD)	87-68-3
Methylene Chloride	75-09-2
1-Bromopropane	106-94-5
Cyclic Aliphatic Bromide Cluster (HBCD)	25637-99-4 3194-55-6 3194-57-8
Asbestos	1332-21-4
Carbon Tetrachloride	56-23-5
1,4-dioxane	123-91-1
N-Methylpyrrolidone (NMP)	872-50-4
Perchloroethylene	127-18-4
Pigment Violet 29	81-33-4
Trichloroethylene (TCE)	79-01-6

Appendix-1.6 Dioxins and Furans

Substances	CAS No.
1,2,3,7,8-Pentachlorodibenzo-p-dioxin	40321-76-4
2,3,7,8-Tetrachlorodibenzofuran	51207-31-9
2,3,4,7,8-Pentachlorodibenzofuran	57117-31-4
2,3,7,8-Tetrachlorodibenzo-p-dioxin	1746-01-6
1,2,3,4,7,8-Hexachlorodibenzo-p-dioxin	39227-28-6
1,2,3,6,7,8-Hexachlorodibenzo-p-dioxin	57653-85-7
1,2,3,7,8,9-Hexachlorodibenzo-p-dioxin	19408-74-3
1,2,3,7,8-Pentachlorodibenzofuran	57117-41-6
1,2,3,4,7,8-Hexachlorodibenzofuran	70648-26-9
1,2,3,6,7,8-Hexachlorodibenzofuran	57117-44-9
1,2,3,7,8,9-Hexachlorodibenzofuran	72918-21-9
2,3,4,6,7,8-Hexachlorodibenzofuran	60851-34-5
1,2,3,4,6,7,8-Heptachlorodibenzo-p-dioxin	35822-46-9
1,2,3,4,6,7,8,9-Octachlorodibenzo-p-dioxin	3268-87-9
1,2,3,4,6,7,8-Heptachlorodibenzofuran	67562-39-4
1,2,3,4,7,8,9-Heptachlorodibenzofuran	55673-89-7
1,2,3,4,6,7,8,9-Octachlorodibenzofuran	39001-02-0
2,3,7,8-Tetrabromodibenzo-p-dioxin	50585-41-6
1,2,3,7,8-Pentabromodibenzo-p-dioxin	109333-34-8
2,3,7,8-Tetrabromodibenzofuran	67733-57-7
2,3,4,7,8-Pentabromodibenzofuran	131166-92-2
1,2,3,4,7,8-Hexabromodibenzo-p-dioxin	110999-44-5
1,2,3,6,7,8-Hexabromodibenzo-p-dioxin	110999-45-6
1,2,3,7,8,9-Hexabromodibenzo-p-dioxin	110999-46-7
1,2,3,7,8-Pentabromodibenzofuran	107555-93-1

Appendix-1.7 Colorants

Substances	CAS No.
Acid Red 26	3761-53-3
Basic Red 9	569-61-9
Basic Violet 14	632-99-5
Direct Black 38	1937-37-7
Direct Blue 6	2602-46-2
Direct Red 28	573-58-0
Direct Yellow 1	6472-91-9
Disperse Blue 1	2475-45-8
Disperse Orange 11	82-28-0
Disperse Yellow 3	2832-40-8
Quinoline	91-22-5
Pigment Yellow 34	1344-37-2
Pigment Red 104	12656-85-8
Disperse Blue 3	2475-46-9
Disperse Blue 7	3179-90-6
Disperse Blue 26	3860-63-7
Disperse Blue 35	12222-75-2
Disperse Blue 102	12222-97-8
Disperse Blue 106	12223-01-7
Disperse Blue 124	61951-51-7
Disperse Brown 1	23355-64-8
Disperse Orange 1	2581-69-3
Disperse Orange 3	730-40-5
Disperse Orange 37/59/76	12223-33-5
Disperse Red 1	2872-52-8
Disperse Red 11	2872-48-2
Disperse Red 17	3179-89-3
Disperse Yellow 1	119-15-3
Disperse Yellow 9	6373-73-5
Disperse Yellow 39	12236-29-2
Disperse Yellow 49	54824-37-2
Pigment Black 25	68186-89-0
Pigment Yellow 157	68610-24-2
Solvent Yellow 14	842-07-9
4-Amino-3-fluorophenol	399-95-1
Acid Violet 49	1694-09-3
Basic Blue 26	2580-56-5
Basic Violet 1	8004-87-3
Basic Violet 3	548-62-9
D&C Orange No. 17	3468-63-1
D&C Red No. 8	2092-56-0
D&C Red No. 9	5160-02-1
D&C Red No. 19	81-88-9
Disperse Orange 149	85136-74-9
Disperse Yellow 23	6250-23-3
Malachite Green	10309-95-2
Navy Blue	118685-33-9
Solvent Blue 4	6786-83-0

Appendix-1.8 Biocides

Substances	CAS No.
2-bromo-2-(bromomethyl)pentanedinitrile (DBDCB)	35691-65-7
Carbendazim	10605-21-7
Chlorocresol	10605-21-7
Fludioxonil	131341-86-1
Glutaraldehyde	111-30-8
3-Iodo-2-propynylbutylcarbamate (IPBC)	55406-53-6
N,N' -methylenebismorpholine (MBM)	5625-90-1
O-Phenylphenol	90-43-7
Propiconazole	60207-90-1
Tebuconazole	107534-96-3
Tolyfluanid	731-27-1
Bronopol	52-51-7
Diazolindinyl urea	78491-02-8
1,3-Dimethylol-5,5-dimethylhydantoin	6440-58-0
Quaternium-15	4080-31-3
Imidazolidinyl urea	39236-46-9
Benzisothiazolone (BIT)	2634-33-5
Dichlorooctylisothiazolinone (DCOIT)	64359-81-5
2-Methyl-1,2-benzisothiazolin-3-one (MBIT)	2527-66-4
Methylchlorisothiazolinone (CIT)	26172-55-4
Methylisothiazolinone (MIT)	2682-20-4
Mixture (3:1) of CIT and MIT	55965-84-9
n-Octylisothiazolinone (OIT)	26530-20-1
2-Butanone, peroxide	1338-23-4
2-Chloroacetamide	79-07-2
4,4-dimethyloxazolidine	51200-87-4
Benzalkonium chloride	8001-54-5
Cetrimonium bromide	57-09-0
Cetrimonium chloride	112-02-7
Cu-HDO	312600-89-8
Dichlorophen	97-23-4
Folpet	133-07-3
Guanidine, N,N"-1,6-hexanedylbis[N'-cyano-, polymer with 1,6-hexanediamine, hydrochloride	27083-27-8
N-Methylol-chloroacetamide	2832-19-1
Permethrin	52645-53-1
Thiourea	62-56-6
Triclosan	3380-34-5

Appendix-1.9 Pesticides

Substances	CAS No.
Aldrine	309-00-2
Azinphos ethyl	2642-71-9
Azinphos methyl	86-50-0
Bromophos-ethyl	4824-78-6
Captafol	2425-06-1
Carbaryl	63-25-2
Chlordane	54-74-9
Chlordecone	143-50-0
Chlordimeform	6164-98-3
Chlorfenvinphos	470-90-6
Coumaphos	56-72-4
Cyfluthrin	68359-37-5
Cyhalothrin, λ -	91465-08-6
Cypermethrin	52315-07-8
Deltamethrin	52918-63-5
Demeton	919-86-8
Diazinon	333-41-5
o,p'-Dichlorodiphenyldichloroethane (o,p'-DDD)	53-19-0
p,p'-Dichlorodiphenyldichloroethane (p,p'-DDD)	72-54-8
o,p'-Dichlorodiphenyldichloroethylene (o,p'-DDE)	3424-82-6
p,p'-Dichlorodiphenyldichloroethylene (p,p'-DDE)	72-55-9
o,p'-Dichlorodiphenyltrichloroethane (o,p'-DDT) and its isomers; preparations containing DDT and its isomers	789-02-6
p,p'-Dichlorodiphenyltrichloroethane (p,p'-DDT) and its isomers; preparations containing DDT and its isomers	50-29-3
2,4-Dichlorophenoxyacetic acid, its salts and compounds	94-75-7
Dichlorprop	120-36-5
Dicrotophos	141-66-2
Dieldrine	60-57-1
Dimethoate	60-51-5
Dinoseb and salts	88-85-7
Endosulfan, alpha	959-98-8
Endosulfan, beta	33213-65-9
Endrine	72-20-8
Esfenvalerate	66230-04-4
Ethyl parathion	56-38-2
Fenvalerate	51630-58-1
Heptachlor	76-44-8
Heptachloroepoxide	1024-57-3
Hexachlorobenzene	118-74-1
Hexachlorocyclohexane (HCH), all isomers	608-73-1
Isodrin	465-73-6
Kelevane	4234-79-1
Lindane	58-89-9
Malathion	121-75-5
MCPA	94-74-6
MCPB	94-81-5
Mecoprop	93-65-2
Methamidophos	10265-92-6
Methoxychlor	72-43-5
Methyl parathion	298-00-0
Mevinophos	7786-34-7
Mirex	2385-85-5
Monocrotophos	6923-22-4
Perthane	72-56-0
Profenophos	41198-08-7
Propetamphos	31218-83-4
Quinalphos	13593-03-8
Quintozene (pentachlorobenzene)	82-68-8
Strobane	8001-50-1
Telodrin	297-78-9

Substances	CAS No.
Toxaphene	8001-35-2
Tribufos (DEF)	78-48-8
2,4,5-Trichlorophenoxyacetic acid, salts and compounds	93-76-5
2-(2,4,5-Trichlorophenoxy)propionic acid, salts and compounds	93-72-1
Trifluralin	1582-09-8

Appendix-1.10 Organotin Compounds

Substances	CAS No.
Monobutyltin (MBT) Compounds	-
Monooctyltin (MOT) Compounds	-
Dibutyltin Dichloride	683-18-1
Dibutyltin (DBT) Compounds	-
Diocetyl tin (DOT) Compounds	-
Tetrabutyltin (TeBT)	-
Tetraoctyltin (TeOT)	-
Tributyltin (TBT) Compounds	-
Tributyltin Oxide	56-35-9
Tricyclohexyltin (TCyT) Compounds	-
Triphenyltin (TPhT) Compounds	-
Triphenyltin Hydroxide	76-87-9

Appendix-2.1 List of Other phthalates

Substances	CAS No.
Di-isononyl phthalate; Diisononyl phthalate	28553-12-0 68515-48-0
Di-isodecyl phthalate; Diisodecyl phthalate	26761-40-0 68515-49-1
Di-n-octyl phthalate	117-84-0
Di-n-hexyl phthalate	84-75-3
1,2-Benzenedicarboxylic acid, di-C6-8-branched alkyl esters, C7-rich	71888-89-6
1,2-Benzenedicarboxylic acid, di-C7-11-branched and linear alkyl esters	68515-42-4
Bis(2-methoxyethyl) phthalate	117-82-8
Other phthalates	-

Appendix-2.2 List of Boric acid, Specific sodium borates

Substances	CAS No.
Boric acid	10043-35-3 11113-50-1
Sodium tetraborate pentahydrate	12179-04-3
Disodium tetraborate, anhydrous	1330-43-4
Sodium tetraborate decahydrate	1303-96-4
Tetraboron disodium heptaoxide, hydrate	12267-73-1

Appendix-2.3 Acrylates

Substances	CAS No.
Acrylic acid	79-10-7
Methyl acrylate	96-33-3
Ethyl acrylate	140-88-5
Butyl acrylate	141-32-2
tert-Butyl acrylate	1663-39-4
2-Ethylhexyl acrylate	103-11-7
Isobornyl acrylate	5888-33-5
1,6-Hexanediol diacrylate	13048-33-4
2-(2-Ethoxyethoxy)ethyl acrylate	7328-17-8
2-Acryloyloxyethyl butylcarbamate	63225-53-6
2-Phenoxyethyl acrylate(PHEA)	48145-04-6
4-tert-Butylcyclohexyl acrylate(TBCHA)	84100-23-2
Butanediol diacrylate	1070-70-8
N,N-Dimethylacrylamide	2680-03-7
Tetrahydrofurfuryl acrylate	2399-48-6
Tricyclododecane dimethanol diacrylate	42594-17-2
Trimethylolpropane triacrylate	15625-89-5
Tripropylene glycol diacrylate	42978-66-5
Other adhesive monomers with similar properties	-

Appendix-2.4 Alkylphenol Ethoxylates and Alkylphenols(APEO/AP)

Substances	CAS No.
Nonylphenol	25154-52-3
Octylphenol	27193-28-8
Polyethylene glycol nonylphenyl ether	9016-45-9
Polyethylene glycol mono(4-nonylphenyl) ether	26027-38-3
Ethoxylated isononylphenol	37205-87-1
Poly(oxy-1,2-ethanediyl), α -(4-nonylphenyl)- ω -hydroxy-, branched	127087-87-0
Poly(oxy-1,2-ethanediyl), α -(nonylphenyl)- ω -hydroxy-, branched	68412-54-4
Polyethylene glycol mono(4-tert-octylphenyl) ether	9002-93-1

Appendix-2.5 Glycidyl ether monomers

Substances	CAS No.
Allyl glycidyl ether	106-92-3
1,4-Butanediol diglycidyl ether	2425-79-8
2,2'-(Oxybis(methylene))bis[oxirane]	2238-07-5
Bisphenol A diglycidyl ether	1675-54-3
Glycidyl neodecanoate	26761-45-5
1,6-Hexanediol diglycidyl ether	16096-31-4
2-[(1-Methylethoxy)methyl]oxirane	4016-14-2
Butyl glycidyl ether	2426-08-6
Oxirane, 2-[(C8-10-alkyloxy)methyl] derivs.	68609-96-1
Phenyl glycidyl ether	122-60-1
p-tert-Butylphenyl glycidyl ether	3101-60-8
Glycerol triglycidyl ether	13236-02-7

Appendix-2.6 Solvents

Substances	CAS No.
Benzene	71-43-2
Dimethylacetamide	127-19-5
Dimethylformamide	68-12-2
Glycol monoethyl ether acetate	111-15-9
Glycol monoethyl ether	110-80-5
Ethylene glycol monomethyl ether acetate	110-49-6
2-Methoxyethanol	109-86-4
N-Methyl-2-pyrrolidone	872-50-4
Toluene	108-88-3
Trichloroethylene	79-01-6

Appendix-2.7 Halogenated Diphenyl Methanes

Substances	CAS No.
Monomethyl-dibromo-diphenyl methane	99688-47-8
Monomethyl-dichloro-diphenyl methane	81161-70-8
Monomethyl-tetrachloro-diphenyl methane	76253-60-6

Appendix-2.8 N-Nitrosamines

Substances	CAS No.
N-Nitrosodibutylamine	924-16-3
N-Nitrosodiethanolamine	1116-54-7
N-Nitrosodiethylamine	55-18-5
N-Nitrosodisopropylamine	601-77-4
N-Nitrosodimethylamine	62-75-9
N-Nitrosodiphenylamine	86-30-6
N-Nitrosodipropylamine	621-64-7
N-Nitrosoethylphenylamine	612-64-6
N-Nitrosomethylethylamine	10595-95-6
N-Nitrosomethylphenylamine	614-00-6
N-Nitrosomorpholine	59-89-2
N-Nitrosopiperidine	100-75-4
N-Nitrosopyrrolidine	930-55-2

Appendix-3.1 List of Other Polycyclic aromatic hydrocarbons (PAHs)

Substances	CAS No.
Acenaphthene	83-32-9
Acenaphthylene	208-96-8
Naphthalene	91-20-3
Fluorene	86-73-7
Phenanthrene	85-01-8
Anthracene	120-12-7
Fluoranthene	206-44-0, 93951-69-0
Pyrene	129-00-0, 1718-52-1
Indeno[1,2,3-c,d]pyrene	193-39-5
Benzo[ghi]perylene	191-24-2
Benzo[fr,s,t]pentaphene	189-55-9
Dibenz[a,h]acridine	226-36-8
Dibenz[a,j]acridine	224-42-0
Dibenzo[a,e]fluoranthene	5385-75-1
Dibenzo[a,e]pyrene	192-65-4
Dibenzo[a,h]pyrene	189-64-0
Dibenzo[a,i]pyrene	191-30-0
7H-Dibenzo(c,g)carbazole	194-59-2
5-Methylchrysene	3697-24-3

Appendix-3.2 chemSHERPA Declarable Substance Ver. (latest Version)

Laws and Regulations	References
LR01: CSCL (Chemical Substances Control Law) : Class I specified chemical substance	http://www.meti.go.jp/policy/chemical_management/kasinhou/index.html
LR02 : Toxic Substances Control Act (TSCA) Section 6	https://www.epa.gov/assessing-and-managing-chemicals-under-tsca/regulation-chemicals-under-section-6a-toxic-substances
LR03 : End-of Life Vehicles Directive (ELV) 2011/37/EU	http://ec.europa.eu/environment/waste/ev/index.htm
LR04 : EU RoHS Directive 2011/65/EU ANNEX II	http://ec.europa.eu/environment/waste/rohs_eee/index_en.htm
LR05 : EU P POPs Regulation (EC) No 850/2004 ANNEX I	http://ec.europa.eu/environment/chemicals/international_conventions/index_en.htm
LR06 : EU REACH Regulation (EC) No 1907/2006 Candidate List of SVHC for Authorisation and ANNEX XIV	http://ec.europa.eu/environment/chemicals/reach/reach_en.htm https://echa.europa.eu/web/quest/candidate-list-table
LR07 : EU REACH Regulation (EC) No 1907/2006 ANNEX XVII	http://echa.europa.eu/addressing-chemicals-of-concern/restrictions/substances-restricted-under-reach
LR08 : (EU) Medical Devices Regulation (MDR) (EU)2017/745 : Annex I 10.4 Substances	https://eur-lex.europa.eu/legal-content/EN/ALL/?uri=CELEX:32017
IC01 : Global Automotive Declarable Substance List (GADSL)	http://www.gadsl.org/
IC02 : IEC 62474 DB Declarable substance groups and declarable substances	http://std.iec.ch/iec62474/iec62474.nsf/MainFrameset

Appendix-3.3 Volatile organic compounds (VOCs)

Substances	CAS No.
Propan-2-ol	67-63-0
Acetone	67-64-1
Butyl acetate	123-86-4
Xylene	1330-20-7
Ethyl methyl ketone	78-93-3
Ethanol	64-17-5
Ethylbenzene	100-41-4
Tetrahydrofuran	109-99-9
2-propanol, 1-methoxy-	107-98-2
1-butanol	71-36-3
Methyl isobutyl ketone	108-10-1
Heptane	142-82-5
Ethyl acetate	141-78-6
Cyclohexanone	108-94-1

Appendix-3.4 TSCA Priority chemicals (20 High-Priority Substances)

Substances	CAS No.
1,3-Butadiene	106-99-0
Butyl benzyl phthalate (BBP)	85-68-7
Dibutyl phthalate (DBP)	84-74-2
o-Dichlorobenzene	95-50-1
p-Dichlorobenzene	106-46-7
1,1-Dichloroethane	75-34-3
1,2-Dichloroethane	107-06-2
trans-1,2-Dichloroethylene	156-60-5
1,2-Dichloropropane	78-87-5
Dicyclohexyl phthalate	84-61-7
Di-ethylhexyl phthalate (DEHP)	117-81-7
Di-isobutyl phthalate (DIBP)	84-69-5
Ethylene dibromide	106-93-4
Formaldehyde	50-00-0
1,3,4,6,7,8-Hexahydro-4,6,6,7,8-hexamethylcyclopenta [g]-2-benzopyran (HHCB)	1222-05-5
Tetrabromobisphenol A (TBBPA)	79-94-7
Phosphoric acid, triphenyl ester (TPP)	115-86-6
Phthalic anhydride	85-44-9
1,1,1-Trichloroethane	79-00-5
Tris(2-chloroethyl) phosphate (TCEP)	115-96-8

Appendix-3.5 Isocyanates (monomers)

Substances	CAS No.
Diphenylmethane-4,4-di-isocyanate (MDI)	101-68-8
Diphenylmethane-2,2-di-isocyanate (2,2-MDI)	2536-05-2
Diphenylmethane-2,4-di-isocyanate (2,4-MDI)	5873-54-1
MDI mixed isomers	26447-40-5
Technical grade MDI	9016-87-9
Hexamethylene diisocyanate (HMDI)	822-06-0
Isophorone diisocyanate (IPDI)	4098-71-9
Tetramethylxylene diisocyanate (TMXDI)	2778-42-9
Toluene-2,4-diisocyanate (2,4-TDI)	584-84-9
Toluene-2,6-diisocyanate (2,6-TDI)	91-08-7
2,4-/2,6-TDI mixture	26471-62-5
2,6-Diisopropylphenyl-isocyanate	28178-42-9
4,4-Methylenedicyclohexyl-di-isocyanate (4,4-MDI)	5124-30-1
Naphthalene-1,5-diisocyanato- (1,5-NDI)	3173-72-6
Phenylisocyanate	103-71-9

NAMICS Green Procurement Standards Environmentally hazardous chemical substances list_Revision Records

Revision No.	Established/ Revised on	Revision	Reason for revision	Established/ Revised by	
13	2016/4/25	Revise the document name "NAMICS Green Procurement Standards Regulated and Managed Substances list" → "NAMICS Green Procurement Standards Environmentally Hazardous Chemical Substances List"	In order to follow Definition of Terms in "NAMICS Green Procurement Standards Document".	QA Div.	
		To add new regulated level: "Reduced Substances"			
		Reallocate the Reference No.			To specify the requirements.
		To add the Appendix 1~3			
		Revise the Regulated level and Scope. (No.P1020, P1030, P2001, M003)			To meet the customer requirements
		To Add the information of "Laws and regulations". (No.P1008)	To follow the legal amendment.		
14	2017/6/16	To add Managed substances (No. M017~M020).	To meet the customer requirements	QA Div.	
		To revise the scope of Regulated substances (No.P1023, P2003).			
		To revise the threshold limit of Regulated substances (No. P1036).			
		Revise the Regulated level and Scope. (No.P1036,R001,R014)			To specify the requirements.
		To add the Appendix 3.2			
15	2018/6/29	To add Managed substances (No. R015).	To meet the customer requirements	QA Div.	
		To revise the threshold limit of Regulated substances (Reduced substances).			
16	2019/6/28	To add Level 2 substances (P2003)	To meet the customer requirements	QA Div.	
		To add Managed substances (M003,M021,M022)			
		Revise the Laws and regulations			
		To revise the Analyzed target			
17	2020/6/30	To revise the Scope and Allowable concentration (P1002).	To be compatible with the industry standards.	QA Div.	
18	2021/7/30	To revise Allowable concentration(P1002) To correct errors(P1008, P1027) To revise Regulated Substances(P1012) To revise Regulated Substances and Allowable concentration(P1018) To revise the Regulated Levels(P1023,P1037) To add the Regulated Substances(P1038~P1050, P2001) To add Reduced Substances(R016~R033) To add Managed Substances(M022~M033)	Based on the review of Allowable concentrations in accordance with each substance's Scope. To meet the important customers' requirements.	QA Div.	