



Canada Amended the Prohibition of Certain Toxic Substances Regulations, 2012

Background

October 5, 2016, Canada Gazette published SOR/2016-252, amending the "Prohibition of Certain Toxic Substances Regulations, 2012" (SOR/2012-285) under the Canadian Environmental Protection Act, 1999. It mainly amended the requirements for HBCD, PFOA, LC-PFCAS, PBDES and PFOS. SOR/2012-285 "Prohibition of Certain Toxic Substances Regulations, 2012" aims to protect the environment and human health via banning the manufacture, use, sell, offer for sale or import the products containing the restricted substances.

Main amendments as below:

1. Part 1 of Schedule 1 to the Regulations is amended by adding the following after item 12:

Item	Toxic Substance
13	Hexabromocyclododecane, which has the molecular formula $C_{12}H_{18}Br_6$

Remark: a person must not manufacture, use, sell, offer for sale or import a toxic substance set out in Schedule 1 or a product containing it. Schedule 1 includes Part 1 & Part 2, Substances listed in Part 1 should not be contained in any products, but Part 2 substances are allowed to be used in manufactured items.

To the schedule 1, added Part 3, listed the prohibited products for HBCD, for details refer to Annex Table 3

2. Part 2 of Schedule 1 to the Regulations is amended by adding the following after item 4:

Toxic Substance	Amended details	Potential uses
Polybrominated diphenyl ethers that have the molecular formula $C_{12}H_{(10-n)}Br_nO$ in which $4 \leq n \leq 10$	Added into Part 2 of Schedule 1, manufacture, use, sell, offer for sale or import HBCDD unless present in manufactured items	Used as flame retardants in EEE products and textile products

3. Schedule 2 to the Regulations is amended by adding the following after Part 3:

Substance	Product Containing the Toxic Substance	Concentration Limit of the Toxic Substance
Perfluorooctane sulfonate and its salts and compounds that contain one of the following groups: $C_8F_{17}SO_2$, $C_8F_{17}SO_3$ or $C_8F_{17}SO_2N$	Aqueous film forming foam	10ppm

Remark: Schedule 2 substances: according to this regulation , substances listed in Schedule 2 are not permitted to be manufactured, used, sold or imported except the permitted uses. Permitted uses:
 (1) Part 1 to Schedule 2 listed the permitted uses in listed toxic substances;
 (2) Part 2 to Schedule 2 listed the temporary permitted uses in listed toxic substances;
 (3) Part 3 to Schedule 2 listed the permitted concentration limits in listed toxic substances, substances within the permitted concentration limit could be used in specified products.



After the amendments, listed toxic substances are as below:

Annex 1: PART 1 to SCHEDULE 1: Prohibited Toxic Substances:

Number	Substances	Number	Substances
1	Dodecachloropentacyclo decane (Mirex)	7	N-Nitrosodimethylamine, which has the molecular formula $C_2H_6N_2O$ (NDMA)
2	Polybrominated Biphenyls that have the molecular formula $C_{12}H_{(10-n)}Br_n$ in which "n" is greater than 2 (PBB)	8	Hexachlorobutadiene, which has the molecular formula C_4Cl_6 (HCBD)
3	Polychlorinated Terphenyls that have the molecular formula $C_{18}H_{(14-n)}Cl_n$ in which "n" is greater than 2 (PCT)	9	Dichlorodiphenyltrichloroethane (DDT), which has the molecular formula $C_{14}H_9Cl_5$ (DDT)
4	Bis(chloromethyl) ether that has the molecular formula $C_2H_4Cl_2O$ (BCME)	10	Hexachlorobenzene (HCB)
5	Chloromethyl methyl ether that has the molecular formula C_2H_5ClO (CMME)	11	Polychlorinated naphthalenes, which have the molecular formula $C_{10}H_{8-n}Cl_n$ in which "n" is greater than 1 (PCN)
6	(4-Chlorophenyl) cyclopropylmethanone, O-[(4-nitrophenyl)methyl] oxime that has the molecular formula $C_{17}H_{15}ClN_2O_3$ (NCC ether)	12	Chlorinated alkanes that have the molecular formula $C_nH_xCl_{(2n+2-x)}$ in which $10 \leq n \leq 13$ (SCCA)
		13	Hexabromocyclododecane, which has the molecular formula $C_{12}H_{18}Br_6$ (HBCD)

Annex 2: PART 2 to SCHEDULE 1: Prohibited Toxic Substances Unless Present in Manufactured Items:

Number	Substances
1	Hexane, 1,6-diisocyanato-, homopolymer, reaction products with alpha-fluoro-omega-2-hydroxyethyl-poly(difluoromethylene), C16-20-branched alcohols and 1-octadecanol
2	2-Propenoic acid, 2-methyl-, hexadecyl ester, polymers with 2-hydroxyethyl methacrylate, gamma-omega-perfluoro-C10-16-alkyl acrylate and stearyl methacrylate
3	2-Propenoic acid, 2-methyl-, 2-methylpropyl ester, polymer with butyl 2-propenoate and 2,5 furandione, gamma-omega-perfluoro-C8-14- alkyl esters, tert-Bu benzenecarboperoxoateinitiated
4	2-Propen-1-ol, reaction products with pentafluoroiodoethane tetrafluoroethylene telomer, dehydroiodinated, reaction products with epichlorohydrin and triethylenetetramine
5	Polybrominated diphenyl ethers that have the molecular formula $C_{12}H_{(10-n)}Br_nO$ in which $4 \leq n \leq 10$ (PBDEs)

Annex 3: PART 3 to SCHEDULE 1: Prohibited Products

Number	Toxic Substance	Product Containing the Toxic Substance
1	Hexabromocyclododecane, which has the molecular formula $C_{12}H_{18}Br_6$ (HBCD)	Expanded and extruded polystyrene foams and their intermediary products for a building or construction application



Annex 4: PART 1 to SCHEDULE 2: Permitted Uses

Number	Toxic Substance	Permitted Uses
1	Benzidine and benzidine dihydrochloride, which have the molecular formulae $C_{12}H_{12}N_2$ and $C_{12}H_{12}N_2 \cdot 2HCl$, respectively	(a) Staining for microscopic examination, such as immunoperoxidase staining, histochemical staining or cytochemical staining; (b) Reagent for detecting blood in biological fluids; (c) Niacin test to detect certain micro-organisms; and (d) Reagent for detecting chloralhydrate in biological fluids.
2	2-Methoxyethanol, which has the molecular formula $C_3H_8O_2$	(a) Adhesives and coatings for aircraft refinishing; and (b) Semiconductor manufacturing process.
3	Benzenamine, N-phenyl-, reaction products with styrene and 2,4,4-trimethylpentene (BNST)	Additive in rubber, except in tires
4	Perfluorooctane sulfonate and its salts and compounds that contain one of the following groups: $C_8F_{17}SO_2$, $C_8F_{17}SO_3$ or $C_8F_{17}SO_2N$ (PFOS)	(a) Photoresists or anti-reflective coatings for photolithography processes; and (b) Photographic films, papers and printing plates.

Annex 5: PART 1.1 to SCHEDULE 2: Permitted Uses — Certain Activities

Number	Toxic Substance	Permitted Uses
1	Perfluorooctane sulfonate and its salts and compounds that contain one of the following groups: $C_8F_{17}SO_2$, $C_8F_{17}SO_3$ or $C_8F_{17}SO_2N$ (PFOS)	In aqueous film forming foam present in a military vessel or military fire-fighting vehicle contaminated during a foreign military operation
2	Perfluorooctanoic acid, which has the molecular formula $C_7F_{15}CO_2H$, and its salts (PFOA)	In aqueous film forming foam used in fire-fighting
3	Compounds that consist of a perfluorinated alkyl group that has the molecular formula C_nF_{2n+1} in which $n = 7$ or 8 and that is directly bonded to any chemical moiety other than a fluorine, chlorine or bromine atom	In aqueous film forming foam used in fire-fighting
4	Perfluorocarboxylic acids that have the molecular formula $C_nF_{2n+1}CO_2H$ in which $8 \leq n \leq 20$, and their salts	In aqueous film forming foam used in fire-fighting
5	Compounds that consist of a perfluorinated alkyl group that has the molecular formula C_nF_{2n+1} in which $8 \leq n \leq 20$ and that is directly bonded to any chemical moiety other than a fluorine, chlorine or bromine atom	In aqueous film forming foam used in fire-fighting

Annex 6: PART 1.2 to SCHEDULE 2: Permitted Uses — Use Only :

Number	Toxic Substance	Permitted Uses
1	Pentachlorobenzene, which has the molecular formula C_6HCl_5	Use with chlorobiphenyls contained in equipment or liquids in the service of equipment in which their use is permitted under the PCB Regulations
2	Tetrachlorobenzenes, which have the molecular formula	Use with chlorobiphenyls contained in equipment or liquids in the service of equipment in which their use is permitted under the PCB



	C ₆ H ₂ Cl ₄	Regulations
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Annex 7: PART 2 to SCHEDULE 2: Temporary Permitted Uses :

Toxic Substance	Permitted Uses	Expiry Date
Benzenamine, N-phenyl-, reaction products with styrene and 2,4,4-trimethylpentene	Additive in lubricants	March 14, 2015
Perfluorooctanoic acid, which has the molecular formula C ₇ F ₁₅ CO ₂ H, and its salts (PFOS)	Water-based inks and photo media coatings	January 1, 2017
Compounds that consist of a perfluorinated alkyl group that has the molecular formula C _n F _{2n+1} in which n = 7 or 8 and that is directly bonded to any chemical moiety other than a fluorine, chlorine or bromine atom	Water-based inks and photo media coatings	January 1, 2017
Perfluorocarboxylic acids that have the molecular formula C _n F _{2n+1} CO ₂ H in which 8 ≤ n ≤ 20, and their salts	Water-based inks and photo media coatings	January 1, 2017
Compounds that consist of a perfluorinated alkyl group that has the molecular formula C _n F _{2n+1} in which 8 ≤ n ≤ 20 and that is directly bonded to any chemical moiety other than a fluorine, chlorine or bromine atom	Water-based inks and photo media coatings	January 1, 2017

Annex 8: PART 3 to SCHEDULE 2: Concentration Limit for Certain Uses

Toxic Substance	Product Containing the Toxic Substance	Concentration Limit of the Toxic Substance
2-Methoxyethanol, which has the molecular formula C ₃ H ₈ O ₂	Diethylene glycol methyl ether, which has the molecular formula C ₅ H ₁₂ O ₃	0.5% (w/w)
Tributyltins, which contain the grouping (C ₄ H ₉) ₃ Sn	Tetrabutyltin, which has the molecular formula (C ₄ H ₉) ₄ Sn	30% (w/w)
Perfluorooctane sulfonate and its salts and compounds that contain one of the following groups: C ₈ F ₁₇ SO ₂ , C ₈ F ₁₇ SO ₃ or C ₈ F ₁₇ SO ₂ N (PFOS)	Aqueous film forming foam	10ppm

HCT SOLUTIONS:

Since CANADIAN ENVIRONMENTAL PROTECTION ACT and the PROHIBITION OF CERTAIN TOXIC SUBSTANCES REGULATIONS will be updated irregularly, the substances and the products controlled will be wider, related enterprises should pay great attention to the update news. HCT is the CNAS accredited Lab. and has the capability to arrange tests to different products, for further information please call us.

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