


**Environmentally Conscious Design
IBM Requirements**
Auszug “Stoffanwendungsverbote”

Table 1. Substances Prohibited from Use	
Chemical/Substance and Example Compounds¹	Example CAS Numbers (May not be all inclusive)¹
Asbestos and Asbestos Materials	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
Halogenated Aromatic Substances ² <i>Prohibited from use in capacitors and transformers only.</i>	
Halogenated Naphthalenes ²	
Mercury and Mercury Compounds	7439-97-6
Mercuric chloride	33631-63-9
Mercury bichloride	7487-94-7
Mercuric sulfate	7783-35-9
Mercuric nitrate	10045-94-0
Mercuric oxide	21908-53-2
Mercuric sulfide	1344-48-5
<i>EXCEPTION: may be used in lamps for LCD displays and scanners if less than 10 mg per lamp and in video projectors if less than 100 mg per lamp; labeling requirements apply; if present, IBM must be supplied with data sheet on mercury content</i>	
Polychlorinated biphenyls (PCBs)	1336-36-3
Polychlorinated phenols ²	
Polychlorinated terphenyls ²	61788-33-8 26140-60-3
Ozone Depleting Chemicals (see Appendix A)	
¹ Note: Examples of common compounds and their CAS numbers are listed for reference, however, list is not exhaustive and all compounds of this material are restricted.	
² From Swiss Ordinance on Substances	

Table 2. Additional Substances Prohibited from Use in Plastics Resins	
Chemical/Substance and Example Compounds¹	Example CAS Numbers (May not be all inclusive)¹
Cadmium and Cadmium Compounds ²	7440-43-9
Cadmium oxide	1306-19-0

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Cadmium sulfide	1306-23-6
Chloroparaffins	63449-39-8 85535-84-8 8029-39-8
Chrome and Chrome Compounds ²	7440-47-3
Barium chromate	10294-40-3
Calcium chromate	13765-19-0
Chromic acetate	1066-30-4
Chromium trioxide	1333-82-0
Lead chromate	7758-97-6
Sodium chromate	7775-11-3
Sodium dichromate	10588-01-9
Strontium chromate	7789-06-2
Zinc chromate	13530-65-9
Lead and Lead Compounds ²	7439-92-1
Lead sulfate	7446-14-2
Lead carbonate	598-63-0
Lead hydrocarbonate	1319-46-6
Lead acetate	301-04-2
Lead (II) acetate, trihydrate	6080-56-4
Lead phosphate	7446-27-7
Lead selenide	12069-00-0
Polybrominated biphenyls (see Appendix B)	
Polybrominated biphenyl ethers/oxides (see Appendix C)	
¹ Note: Examples of common compounds and their CAS numbers are listed for reference, however, list is not exhaustive and all compounds of this material are restricted.	
² Exception: Excludes plastics used in electrical components and cables.	

Table 3. Additional Substances Prohibited from Use in Paints and Plastic Coloring Agents¹

Chemical/Substance	CAS Number
Cadmium and Cadmium Compounds	7440-43-9 + others
Chrome and Chrome Compounds	7440-47-3 + others
Lead and Lead Compounds	7439-92-1 + others
¹ Note: For examples of compounds, see Table 2	

Table 5. Substances Prohibited from Use in Manufacturing¹

Chemical/Substance	CAS Number
Ozone depleting chemicals (see Appendix A)	
¹ Note: Manufacturing processes do not include facilities equipment or systems such as chillers and fire suppression systems.	

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Battery Type	Restrictions
All Battery Types	<ul style="list-style-type: none">/// No intentionally-introduced Mercury/// ? 0.0005% Mercury by weight/// Only battery types which are exempted from all hazardous materials transport regulations (surface and air), i.e., not classified as a hazardous material (for purposes of transport) or dangerous goods, can be used./// All batteries contained in electronic products must meet heavy metal restrictions and other requirements specified in European Union Directive 91/157/EEC.
Button Cell Batteries	/// ? 0.0005% Cadmium by weight
Sealed Lead Acid (Pb)	Must be classified as non-spillable. Avoid where alternative battery chemistries are available.
Lithium	Approved Lithium Batteries are limited to the following types: <ul style="list-style-type: none">• Lithium Ion• Lithium Iodine• Lithium Manganese Dioxide• Lithium Carbon Monofluoride• Lithium Vanadium• Lithium Niobium
Nickel Cadmium (Ni-Cd)	Restricted to applications where no technically feasible alternative exists. Use requires written approval of an IBM purchasing representative unless battery(s) have been specified by an IBM print or specification.
Nickel Metal Hydride (Ni-MH)	? 0.025% Cadmium by weight
Zinc Carbon Batteries	? 0.001% Cadmium by weight



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Appendix A. Ozone Depleting Chemicals	
Chemical/Substance	CAS Number
Chlorofluorocarbons (CFCs):	
Trichlorofluoromethane (CFC-11) and its isomers	75-69-4 62185-70-0 79620-41-0 83589-40-6 91315-61-6
Dichlorodifluoromethane (CFC-12) and its isomers	75-71-8 185009-39-6 62185-71-1
Trichlorotrifluoroethane (CFC-113) and its isomers	76-13-1 39349-94-5 56996-61-3 57762-34-2
Dichlorotetrafluoroethane (CFC-114) and its isomers	76-14-2
Monochloropentafluoroethane (CFC-115) and its isomers	76-15-3 12770-91-1
Chlorotrifluoromethane (CFC-13) and its isomers	75-72-9 185009-43-2
Pentachlorofluoroethane (CFC-111) and its isomers	354-56-3 29756-45-4
Tetrachlorodifluoroethane (CFC-112) and its isomers	76-12-0
Heptachlorofluoropropane (CFC-211) and its isomers	422-78-6 135401-87-5
Hexachlorodifluoropropane (CFC-212) and its isomers	3182-26-1
Pentachlorotrifluoropropane (CFC-213) and its isomers	2354-06-5 134237-31-3
Tetrachlorotetrafluoropropane (CFC-214) and its isomers	29255-31-0 2268-46-4
Trichloropentafluoropropane (CFC-215) and its isomers	1599-41-3 4259-43-2 76-17-5
Dichlorohexafluoropropane (CFC-216) and its isomers	661-97-2
Chloroheptafluoropropane (CFC-217) and its isomers	422-86-6
Halons:	
Bromochlorodifluoromethane (Halon-1211) and its isomers	353-59-3 11104-73-7

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Chemical/Substance	CAS Number
Bromotrifluoromethane (Halon-1301) and its isomers	75-63-8 62395-25-9
Bromotetrafluoroethane (Halon-2402) and its isomers	124-73-2
Carbon tetrachloride	56-23-5
1,1,1-trichloroethane (methyl chloroform)¹ and its isomers except 1,1,2-trichloroethane	71-55-6 74552-83-3
Bromomethane (methyl bromide)	74-83-9
Hydrobromofluorocarbons (HBFCs):	
Bromodifluoromethane and its isomers	1511-62-2
HBFC-22B1 (FM-100)	1511-62-2
CH ₂ FBr	NA
C ₂ HFBr ₄	NA
C ₂ HF ₂ Br ₃	NA
C ₂ HF ₃ Br ₂	NA
C ₂ HF ₄ Br	NA
C ₂ H ₂ FBr ₃	NA
C ₂ H ₂ F ₂ Br ₂	NA
C ₂ H ₂ F ₃ Br	NA
C ₂ H ₃ FBr ₂	NA
C ₂ H ₃ F ₂ Br	NA
C ₂ H ₄ FBr	NA
C ₃ HFBr ₆	NA
C ₃ HF ₂ Br ₅	NA
C ₃ HF ₃ Br ₄	NA
C ₃ HF ₄ Br ₃	NA
C ₃ HF ₅ Br ₂	NA
C ₃ HF ₆ Br	NA
C ₃ H ₂ FBr ₅	NA
C ₃ H ₂ F ₂ Br ₄	NA
C ₃ H ₂ F ₃ Br ₃	NA
C ₃ H ₂ F ₄ Br ₂	NA
C ₃ H ₂ F ₅ Br	NA
C ₃ H ₃ FBr ₄	NA
C ₃ H ₃ F ₂ Br ₃	NA
C ₃ H ₃ F ₃ Br ₂	NA
C ₃ H ₃ F ₄ Br	NA
C ₃ H ₄ FBr ₃	NA
C ₃ H ₄ F ₂ Br ₂	NA
C ₃ H ₄ F ₃ Br	NA
C ₃ H ₅ FBr ₂	NA
C ₃ H ₅ F ₂ Br	NA
C ₃ H ₆ FBr	NA

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Appendix A. Ozone Depleting Chemicals	
Chemical/Substance	CAS Number
Hydrochlorofluorocarbons (HCFCs):	
Dichlorofluoromethane (HCFC-21)	75-43-4 DR ² 39289-28-6
Chlorodifluoromethane (HCFC-22)	75-45-6 DR ² 73666-77-0
Chlorofluoromethane (HCFC-31)	593-70-4
Tetrachlorofluoroethane (HCFC-121)	130879-71-9 134237-32-4 ³
1,1,1,2-tetrachloro-2-fluoroethane	354-11-0
1,1,2,2-tetrachloro-1-fluoroethane	354-14-3
Trichlorodifluoroethane (HCFC-122)	41834-16-6
Trichloro-1,1-difluoroethane	55949-46-7
1,2,2-trichloro-1,1-difluoroethane	354-21-2 DR ² 62549-18-2
1,2,2-trichloro-1,2-difluoroethane	354-15-4
1,1,1-trichloro-2,2-difluoroethane	354-12-1
1,1,2-trichloro-2,2-difluoroethane	NA
Dichlorotrifluoroethane (HCFC-123)	34077-87-7 134237-33-5 ³
Dichloro-1,1,2-trifluoroethane	90454-18-5
2,2-dichloro-1,1,1-trifluoroethane	306-83-2
1,2-dichloro-1,1,2-trifluoroethane (HCFC-123a)	354-23-4
1,1-dichloro-1,2,2-trifluoroethane	812-04-4
2,2-dichloro-1,1,2-trifluoroethane	NA
Chlorotetrafluoroethane (HCFC-124)	63938-10-3
2-chloro-1,1,1,2-tetrafluoroethane	2837-89-0
1-chloro-1,1,2,2-tetrafluoroethane (HCFC-124a)	354-25-6
Trichlorofluoroethane (HCFC-131)	27154-33-2 134237-34-6 ³
1,1,2-trichloro-2-fluoroethane	359-28-4
1,1,2-trichloro-1 (or 2)-fluoroethane	90134-98-8
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
Dichloro-1,1-difluoroethane	55494-45-6
1,1-dichlorodifluoroethane	31153-51-2
(meso) 1,2-dichloro-1,2-difluoroethane	33579-37-2
(R,R)-(+)-1,2-dichloro-1,2-difluoroethane	33489-30-4
1,2-dichloro-1,1-difluoroethane (HCFC-132b)	1649-08-7
1,1-dichloro-1,2-difluoroethane	1842-05-3
1,1-dichloro-2,2-difluoroethane	471-43-2
1,2-dichloro-1,2-difluoroethane	431-06-1
Chlorotrifluoroethane (HCFC-133)	13330-45-6 DR ² 38097-47-1
1-chloro-1,2,2-trifluoroethane	431-07-2

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Chemical/Substance	CAS Number
1-chloro-1,1,2-trifluoroethane	421-04-5
2chloro-1,1,1-trifluoroethane (HCFC-133a)	75-88-7
Dichlorofluoroethane (HCFC-141)	25167-88-8
1,1-dichloro-1-fluoroethane (HCFC-141b)	1717-00-6
1,2-dichloro-1-fluoroethane	430-57-9
1,1-dichloro-2-fluoroethane	430-53-5
Chlorodifluoroethane (HCFC-142)	25497-29-4
	DR ² 58561-84-5
	DR ² 27175-71-9
Chloro-1,1-difluoroethane	55949-44-5
2-chloro-1,1-difluoroethane	338-65-8
1-chloro-1,1-difluoroethane (HCFC-142b)	75-68-3
	DR ² 65762-25-6
1-chloro-1,2-difluoroethane (HCFC-142a)	338-64-7
Hexachlorofluoropropane (HCFC-221)	29470-94-8
	134237-35-7 ³
1,1,1,2,3,3-hexachloro-3-fluoropropane	431-79-8
1,1,1,2,3,3-hexachloro-2-fluoropropane	422-40-2
1,1,1,2,2,3-hexachloro-1-fluoropropane	422-26-4
1,1,2,2,3,3-hexachloro-1-fluoropropane	422-28-6
1,1,1,3,3,3-hexachloro-2-fluoropropane	NA
Pentachlorodifluoropropane (HCFC-222)	116867-32-4
	134237-36-8 ³
1,1,2,3,3-pentachloro-1,3-difluoropropane	421-82-3
1,1,1,2,3-pentachloro-3,3-difluoropropane	431-80-1
1,1,1,3,3-pentachloro-2,2-difluoropropane	422-49-1
1,2,2,3,3-pentachloro-1,1-difluoropropane	422-30-0
1,1,1,2,2-pentachloro-3,3-difluoropropane	422-27-5
1,1,1,2,3-pentachloro-2,3-difluoropropane	NA
1,1,1,3,3-pentachloro-2,3-difluoropropane	NA
(1,1,3,3,3-pentachloro-1,2-difluoropropane)	
1,1,2,2,3-pentachloro-1,3-difluoropropane	NA
1,1,2,3,3-pentachloro-1,2-difluoropropane	NA
Tetrachlorotrifluoropropane (HCFC-223)	29470-95-9
	134237-37-9 ³
1,1,1,3-tetrachloro-2,3,3-trifluoropropane	54002-59-4
1,1,2,3-tetrachloro-1,3,3-trifluoropropane	431-83-4
1,1,1,2-tetrachloro-3,3,3-trifluoropropane	431-81-2
1,1,3,3-tetrachloro-1,2,2-trifluoropropane	422-52-6
1,1,1,3-tetrachloro-2,2,3-trifluoropropane	422-50-4
1,2,3,3-tetrachloro-1,1,2-trifluoropropane	422-41-3
2,2,3,3-tetrachloro-1,1,1-trifluoropropane	422-35-5
1,1,2,2-tetrachloro-1,3,3-trifluoropropane	422-29-7
1,1,1,2-tetrachloro-2,3,3-trifluoropropane	NA
1,1,3,3-tetrachloro-1,2,3-trifluoropropane	NA
1,2,2,3-tetrachloro-1,1,3-trifluoropropane	NA

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Chemical/Substance	CAS Number
1,1,2,3-tetrachloro-1,2,3-trifluoropropane	NA
Trichlorotetrafluoropropane (HCFC-224)	127564-91-4 134237-38-0 ³
1,1,3-trichloro-1,2,3,3-tetrafluoropropane	53063-53-9
1,1,1-trichloro-2,3,3,3-tetrafluoropropane	53063-52-8
1,1,2-trichloro-1,3,3,3-tetrafluoropropane	431-84-5
1,3,3-trichloro-1,1,2,2-tetrafluoropropane	422-54-8
1,1,3-trichloro-1,2,2,3-tetrafluoropropane	422-53-7
1,1,1-trichloro-2,2,3,3-tetrafluoropropane	422-51-5
2,3,3-trichloro-1,1,1,2-tetrafluoropropane	422-47-9
1,2,3-trichloro-1,1,2,3-tetrafluoropropane	422-42-4
1,2,2-trichloro-1,1,3,3-tetrafluoropropane	422-32-2
2,2,3-trichloro-1,1,1,3-tetrafluoropropane	NA
1,1,2-trichloro-1,2,3,3-tetrafluoropropane	NA
Dichloropentafluoropropane (HCFC-225)	127564-92-5
1,3-dichloro-1,1,2,3,3-pentafluoropropane	136013-79-1
3,3-dichloro-1,1,1,2,2-pentafluoropropane (HCFC-225ca)	422-56-0 507-55-1
1,3-dichloro-1,1,2,2,3-pentafluoropropane (HCFC-225cb)	128903-21-9 111512-56-2
2,2-dichloro-1,1,1,3,3-pentafluoropropane (HCFC-225aa)	111512-55-1 111512-51-7
1,1-dichloro-1,2,3,3,3-pentafluoropropane	13474-88-9
(R,S)2,3-dichloro-1,1,1,2,3-pentafluoropropane	431-86-7
(R,R)2,3-dichloro-1,1,1,2,3-pentafluoropropane	422-48-0
1,1-dichloro-1,2,2,3,3-pentafluoropropane	422-44-6
1,2-dichloro-1,1,3,3,3-pentafluoropropane (HCFC-225da)	
2,3-dichloro-1,1,1,2,3-pentafluoropropane (HCFC-225ba)	
1,2-dichloro-1,1,2,3,3-pentafluoropropane	
Chlorohexafluoropropane (HCFC-226)	28987-04-4 134308-72-8 ³
2-chloro-1,1,1,2,3,3-hexafluoropropane (HCFC-226ba)	51346-64-6 431-87-8
2-chloro-1,1,1,3,3,3-hexafluoropropane (HCFC-226da)	422-57-1 422-55-9
3-chloro-1,1,1,2,2,3-hexafluoropropane (HCFC-226ca)	359-58-0
1-chloro-1,1,2,2,3,3-hexafluoropropane (HCFC-226cb)	
1-chloro-1,1,2,3,3,3-hexafluoropropane (HCFC-226ea)	
Pentachlorofluoropropane (HCFC-231)	NA 134190-48-0 ³
1,1,1,2,3-pentachloro-2-fluoropropane	421-94-3

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Chemical/Substance	CAS Number
1,1,2,3,3-pentachloro-2-fluoropropane	NA
1,1,1,3,3-pentachloro-3-fluoropropane	NA
1,1,2,2,3-pentachloro-1-fluoropropane	NA
1,1,1,2,2-pentachloro-3-fluoropropane	NA
1,1,1,2,3-pentachloro-3-fluoropropane	NA
1,1,1,3,3-pentachloro-2-fluoropropane	NA
1,1,2,2,3-pentachloro-3-fluoropropane	NA
1,1,2,3,3-pentachloro-1-fluoropropane	NA
Tetrachlorodifluoropropane (HCFC-232)	127564-82-3
1,2,3,3,-tetrachloro-1,1-difluoropropane	67879-59-8
1,1,3,3,-tetrachloro-2,2-difluoropropane	1112-14-7
1,1,1,3,-tetrachloro-2,2-difluoropropane	677-54-3
1,1,1,3,-tetrachloro-3,3-difluoropropane	460-89-9
1,1,1,3,-tetrachloro-2,3-difluoropropane	NA
1,1,1,2,-tetrachloro-2,3-difluoropropane	NA
1,1,1,2,-tetrachloro-3,3-difluoropropane	NA
1,1,2,3,-tetrachloro-1,2-difluoropropane	NA
1,1,2,3,-tetrachloro-1,3-difluoropropane	NA
1,2,3,3,-tetrachloro-1,2-difluoropropane	NA
(1,1,2,3,-tetrachloro-2,3-difluoropropane)	
1,2,2,3,-tetrachloro-1,1-difluoropropane	NA
1,2,2,3,-tetrachloro-1,3-difluoropropane	NA
1,1,3,3,-tetrachloro-1,3-difluoropropane	NA
1,1,2,2,-tetrachloro-3,3-difluoropropane	NA
(2,2,3,3,-tetrachloro-1,1-difluoropropane)	
1,1,2,2,-tetrachloro-1,3-difluoropropane	NA
Trichlorotrifluoropropane (HCFC-233)	61623-04-9
	134237-40-4 ³
1,1,3-trichloro-2,2,3-trifluoropropane	131221-36-8
1,1,1-trichloro-2,2,3-trifluoropropane	131211-71-7
1,1,3-trichloro-1,2,3-trifluoropropane	54377-32-1
1,1,1-trichloro-2,3,3-trifluoropropane	54306-56-8
1,1,2-trichloro-2,3,3-trifluoropropane	13058-99-6
1,1,1-trichloro-3,3,3-trifluoropropane	7125-84-0
2,2,3-trichloro-1,1,1-trifluoropropane	7125-83-9
2,3,3-trichloro-1,1,1-trifluoropropane	431-51-6
1,1,3-trichloro-1,2,2-trifluoropropane	421-99-8
1,2,3-trichloro-1,1,2-trifluoropropane	421-95-4
1,1,3-trichloro-1,3,3-trifluoropropane	333-26-6
1,1,2-trichloro-1,2,3-trifluoropropane	NA
1,2,3-trichloro-1,2,3-trifluoropropane	NA
1,1,2-trichloro-1,3,3-trifluoropropane	NA
1,3,3-trichloro-1,1,2-trifluoropropane	NA
2,2,3-trichloro-1,1,3-trifluoropropane	NA
1,2,3-trichloro-1,1,3-trifluoropropane	NA
1,2,2-trichloro-1,1,3-trifluoropropane	NA

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Chemical/Substance	CAS Number
Dichlorotetrafluoropropane (HCFC-234)	127564-83-4
1,3-dichloro-1,1,3,3-tetrafluoropropane (HCFC-234fa)	76140-39-1
1,3-dichloro-1,2,2,3-tetrafluoropropane	70341-81-0
1,1-dichloro-1,2,2,3-tetrafluoropropane	70192-63-1
1,1-dichloro-1,3,3,3-tetrafluoropropane	64712-27-2
(R,R) 1,3-dichloro-1,1,2,3-tetrafluoropropane	53149-65-8
3,3-dichloro-1,1,1,2-tetrafluoropropane	53063-54-0
2,2-dichloro-1,1,3,3-tetrafluoropropane	17705-30-5
1,1-dichloro-2,2,3,3-tetrafluoropropane	4071-01-6
1,2-dichloro-1,2,3,3-tetrafluoropropane	425-94-5
1,3-dichloro-1,1,2,2-tetrafluoropropane (HCFC-234cc)	422-00-5
2,3-dichloro-1,1,1,3-tetrafluoropropane (HCFC-234da)	NA
1,1-dichloro-1,2,3,3-tetrafluoropropane	NA
1,2-dichloro-1,1,3,3-tetrafluoropropane	NA
2,3-dichloro-1,1,1,2-tetrafluoropropane	NA
2,2-dichloro-1,1,1,3-tetrafluoropropane	NA
1,2-dichloro-1,1,2,3-tetrafluoropropane	NA
1,3-dichloro-1,1,2,3-tetrafluoropropane	NA
Chloropentafluoropropane (HCFC-235)	108662-83-5
3-chloro-1,1,1,2,3-pentafluoropropane	134237-83-5 ³
2-chloro-1,1,1,3,3-pentafluoropropane (HCFC-235da)	134251-06-2
1-chloro-1,2,2,3,3-pentafluoropropane (HCFC-235ca)	28103-66-4
1-chloro-1,1,2,2,3-pentafluoropropane (HCFC-235cc)	679-99-2
1-chloro-1,1,3,3,3-pentafluoropropane (HCFC-235fa)	677-55-4
3-chloro-1,1,1,2,2-pentafluoropropane (HCFC-235cb)	460-92-4
2-chloro-1,1,1,2,3-pentafluoropropane	422-02-6
1-chloro-1,1,2,3,3-pentafluoropropane	NA
2-chloro-1,1,2,3,3-pentafluoropropane	NA
Tetrachlorofluoropropane (HCFC-241)	NA
1,1,1,2-tetrachloro-3-fluoropropane	134190-49-1 ³
1,1,1,3-tetrachloro-3-fluoropropane	84816-05-7
1,1,2,3-tetrachloro-3-fluoropropane	23153-22-2
1,1,2,2-tetrachloro-1-fluoropropane	21981-25-9
1,1,2,3-tetrachloro-2-fluoropropane	7126-06-9
1,1,1,2-tetrachloro-2-fluoropropane	3175-26-6
1,1,2,3-tetrachloro-1-fluoropropane	3175-25-5
1,1,1,3-tetrachloro-2-fluoropropane	666-27-3
	NA

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Appendix A. Ozone Depleting Chemicals	
Chemical/Substance	CAS Number
1,1,2,2-tetrachloro-3-fluoropropane	NA
1,2,2,3-tetrachloro-1-fluoropropane	NA
1,1,3,3-tetrachloro-1-fluoropropane	NA
1,1,3,3-tetrachloro-2-fluoropropane	NA
Trichlorodifluoropropane (HCFC-242)	127564-90-3 134237-42-6 ³
1,3,3-trichloro-1,1-difluoropropane	460-63-9
1,2,3-trichloro-1,2-difluoropropane	7164-14-9
1,1,3-trichloro-2,2-difluoropropane	1112-13-6
1,2,3-trichloro-1,1-difluoropropane	431-24-3
1,1,1-trichloro-2,2-difluoropropane	1112-05-6
1,2,2-trichloro-1,1-difluoropropane	7126-05-8
1,1,2-trichloro-1,2-difluoropropane	7126-04-7
1,1,1-trichloro-2,3-difluoropropane	NA
1,1,2-trichloro-1,3-difluoropropane	NA
1,1,3-trichloro-1,2-difluoropropane	NA
1,1,2-trichloro-2,3-difluoropropane	NA
1,2,2-trichloro-1,3-difluoropropane	NA
2,2,3-trichloro-1,1-difluoropropane	NA
1,1,1-trichloro-3,3-difluoropropane	NA
1,1,3-trichloro-1,3-difluoropropane	NA
1,1,2-trichloro-3,3-difluoropropane	NA
1,1,3-trichloro-2,3-difluoropropane	NA
1,2,3-trichloro-1,3-difluoropropane	NA
Dichlorotrifluoropropane (HCFC-243)	116890-51-8 134237-43-7 ³
2,2-dichloro-1,1,1-trifluoropropane	7126-01-4
1,1-dichloro-1,2,2-trifluoropropane	7125-99-7
1,2-dichloro-1,1,2-trifluoropropane	7126-00-3
2,3-dichloro-1,1,1-trifluoropropane (HCFC-243da)	338-75-0
1,3-dichloro-1,2,2-trifluoropropane	67406-68-2
1,1-dichloro-2,2,3-trifluoropropane	70192-70-0
3,3-dichloro-1,1,1-trifluoropropane	460-69-5
1,3-dichloro-1,1,2-trifluoropropane	NA
1,2-dichloro-1,1,3-trifluoropropane	NA
1,1-dichloro-1,2,3-trifluoropropane	NA
2,3-dichloro-1,1,2-trifluoropropane	NA
2,2-dichloro-1,1,3-trifluoropropane	NA
1,2-dichloro-1,2,3-trifluoropropane	NA
1,3-dichloro-1,1,3-trifluoropropane	NA
1,1-dichloro-1,3,3-trifluoropropane	NA
3,3-dichloro-1,1,2-trifluoropropane	NA
2,3-dichloro-1,1,3-trifluoropropane	NA
1,3-dichloro-1,2,3-trifluoropropane	NA
Chlorotetrafluoropropane (HCFC-244)	NA 134190-50-4 ³

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Appendix A. Ozone Depleting Chemicals	
Chemical/Substance	CAS Number
2-chloro-1,1,1,3-tetrafluoropropane (HCFC-244db)	117970-90-8
3-chloro-1,1,2,2-tetrafluoropropane	679-85-6
1-chloro-1,2,2,3-tetrafluoropropane	67406-66-0
1-chloro-1,1,3,3-tetrafluoropropane (HCFC-244fb)	2730-64-5
2-chloro-1,1,3,3-tetrafluoropropane (HCFC-244da)	19041-02-2
2-chloro-1,1,1,2-tetrafluoropropane (HCFC-244ba)	421-73-8
1-chloro-1,1,2,2-tetrafluoropropane	421-75-0
1-chloro-1,1,2,3-tetrafluoropropane	NA
3-chloro-1,1,1,2-tetrafluoropropane	NA
2-chloro-1,1,2,3-tetrafluoropropane	NA
3-chloro-1,1,1,3-tetrafluoropropane	NA
3-chloro-1,1,2,3-tetrafluoropropane	NA
Trichlorofluoropropane (HCFC-251)	NA
(R,S)-(.+-.) 1,2,3-trichloro-1-fluoropropane	134190-51-5 ³
(R,R)-(.+-.)	84847-80-3
[R(R,S)]	84847-79-0
[R(R,R)]	76985-34-7
(R,S)	76985-33-6
(R,R)	67832-50-2
1,2,3-trichloro-2-fluoropropane	67832-44-4
1,2,2-trichloro-3-fluoropropane	7126-16-1
1,1,3-trichloro-1-fluoropropane	70192-89-1
1,1,3-trichloro-2-fluoropropane	818-99-5
1,1,2-trichloro-1-fluoropropane	76937-36-5
1,1,2-trichloro-2-fluoropropane	421-41-0
1,1,1-trichloro-2-fluoropropane	3175-24-4
1,1,1-trichloro-3-fluoropropane	NA
1,1,2-trichloro-3-fluoropropane	NA
1,1,3-trichloro-3-fluoropropane	NA
1,2,2-trichloro-1-fluoropropane	NA
1,2,3-trichloro-1-fluoropropane	NA
Dichlorodifluoropropane (HCFC-252)	NA
1,1-dichloro-2,2-difluoropropane	134190-52-6 ³
1,1-dichloro-3,3-difluoropropane	1112-01-2
1,1-dichloro-1,3-difluoropropane	131404-17-6
1,2-dichloro-1,1-difluoropropane	121612-64-4
1,2-dichloro-2,3-difluoropropane	7126-15-0
2,3-dichloro-1,1-difluoropropane	70192-74-4
1,3-dichloro-1,1-difluoropropane	82578-00-5
1,3-dichloro-1,2-difluoropropane	819-00-1
1,3-dichloro-2,2-difluoropropane	111483-26-2
1,1-dichloro-1,2-difluoropropane	1112-36-3
1,1-dichloro-2,3-difluoropropane	NA
1,2-dichloro-1,2-difluoropropane 1,2-dichloro-1,3-	NA
difluoropropane	NA



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Appendix A. Ozone Depleting Chemicals	
Chemical/Substance	CAS Number
1,3-dichloro-1,3-difluoropropane	NA
2,2-dichloro-1,1-difluoropropane	NA
2,2-dichloro-1,3-difluoropropane	NA
Chlorotrifluoropropane (HCFC-253)	26588-23-8 134237-44-8 ³
2-chloro-1,1,1-trifluoropropane	421-47-6
3-chloro-1,1,1-trifluoropropane	460-35-5
1-chloro-1,1,2-trifluoropropane	134251-05-1
2-chloro-1,1,2-trifluoropropane	69202-10-4
3-chloro-1,1,2-trifluoropropane	121612-65-5
1-chloro-1,1,3-trifluoropropane	83124-56-5
1-chloro-1,2,2-trifluoropropane	70192-76-6
1-chloro-2,2,3-trifluoropropane	56758-54-4
2-chloro-1,1,3-trifluoropropane	NA
3-chloro-1,1,3-trifluoropropane	NA
(1-chloro-1,3,3-trifluoropropane)	
1-chloro-1,2,3-trifluoropropane	NA
2-chloro-1,2,3-trifluoropropane	NA
Dichlorofluoropropane (HCFC-261)	127404-11-9 134237-45-9 ³
1,1-dichloro-1-fluoropropane	7779-56-6
1,1-dichloro-2-fluoropropane	53074-31-0
1,1-dichloro-3-fluoropropane	53074-30-9
1,2-dichloro-1-fluoropropane	7799-55-5
1,2-dichloro-2-fluoropropane	420-97-3
1,2-dichloro-3-fluoropropane	453-01-0
1,3-dichloro-1-fluoropropane	83124-60-1
1,3-dichloro-2-fluoropropane	816-38-6
2,2-dichloro-1-fluoropropane	NA
Chlorodifluoropropane (HCFC-262)	NA 134190-53-7 ³
1-chloro-1,1-difluoropropane	421-02-3
2-chloro-1,1-difluoropropane	430-93-3
	DR ² 5268567-3
3-chloro-1,1-difluoropropane	83124-57-6
1-chloro-1,2-difluoropropane	430-96-6
1-chloro-2,3-difluoropropane	37161-81-2
2-chloro-1,3-difluoropropane	102738-79-4
1-chloro-2,2-difluoropropane	420-99-5
2-chloro-1,2-difluoropropane	NA
1-chloro-1,3-difluoropropane	NA
Chlorofluoropropane (HCFC-271)	NA 134190-54-8 ³
1-chloro-1-fluoropropane	430-55-7
1-chloro-2-fluoropropane	430-46-6
1-chloro-3-fluoropropane	462-38-4

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Appendix A. Ozone Depleting Chemicals	
Chemical/Substance	CAS Number
2-chloro-1-fluoropropane	20372-78-5
2-chloro-2-fluoropropane	420-44-0
Notes: ¹ Exception: may be used in manufacture of material in case of transformation use where 1,1,1-trichloroethane is consumed and does not pose a threat to the stratospheric ozone layer. ² DR denotes a deleted registry number that was replaced with another registry number. ³ Chemical to which Chemical Abstract Service (CAS) assigned registry number based on premise that it was a trade name, although chemical may be the same as another on already listed.	

Appendix B. Polybrominated biphenyls	
Bromobiphenyl	2052-07-05, 2113-57-7, 92-66-0
Decabromobiphenyl	13654-09-06
Dibromobiphenyl	92-86-4
Heptabromobiphenyl	
Hexabromobiphenyl	59080-40-9, 36355-01-8, 67774-32-7
Nonabromobiphenyl	
Octabromobiphenyl	61288-13-9
Pentabromobiphenyl	
Polybrominated Biphenyl	59536-65-1
Tetrabromobiphenyl	40088-45-7
Tribromobiphenyl	

Appendix C. Polybrominated biphenyl ethers/oxides	
Bromobiphenyl Ether	101-55-3
Decabromobiphenyl Ether	1163-19-5
Dibromobiphenyl Ether	2050-47-7
Heptabromobiphenyl Ether	68928-80-3
Hexabromobiphenyl Ether	36483-60-0
Nonabromobiphenyl Ether	63936-56-1
Octabromobiphenyl Ether	32536-52-0
Pentabromobiphenyl Ether	32534-81-9
Tetrabromobiphenyl Ether	40088-47-9
Tribromobiphenyl Ether	49690-94-0