BERMUDA

CLEAN AIR REGULATIONS 1993

BR 44 / 1993

[made under section 11 of the Clean Air Act 1991 and brought into operation on 1 October 1993]

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Citation

1 These Regulations may be cited as the Clean Air Regulations 1993.

Interpretation

2 In these Regulations—

"ambient air" has the same meaning as assigned to it in the Clean Air Act 1991;

"burnable debris" has the meaning given to it in regulation 3;

"controlled chemical" means a substance listed in Schedule 1;

"hazardous material" means a material that is—

(a) toxic, corrosive, ignitable or reactive; and

(b) capable of harming any human being, animal, vegetation or material;

"operator" means operator of a plant;

"particulate" means any material (whether a liquid or a solid), except uncombined water, having finite physical boundaries at standard conditions;

"plant" means a controlled plant;

"prohibited debris" means debris other than burnable debris;

"standard conditions" means a temperature of 25 degrees Celsius and a barometric pressure of 760 millimetres of mercury.

[Regulation 2 amended by BR 97/2007 reg. 3 in substituting definition of "ambient air" and substituting subparagraph (b) of "hazardous material" effective 14 December 2007; Regulation 2 definition "controlled chemical" amended by BR 8 / 2026 reg. 2 effective 31 January 2026]

Control of open fires

3 (1) A person shall not burn burnable debris in an open fire if—

(a) the smoke is prejudicial to health or is objectionable to persons in the neighbourhood; or

(b) the effluvia are so prejudicial or objectionable.

(2) "Burnable debris" means any flammable—

(a) straw or stubble or tree stumps; or

(b) grass or weeds; or

(c) leaves or tree prunings; or

(d) brush or fallen trees; or

(e) other horticultural waste;

whether or not on newly-cleared land.

Further control of open fires

4 A person shall not burn prohibited debris in an open fire except under and in accordance with a valid permission issued to him by the Authority for the purpose.

[Regulation 4 amended by BR 97/2007 reg. 4 effective 14 December 2007]

Control of certain releases into the air

5 A person shall not release into the air—

(a) a hazardous material; or

(aa) an offensive odour above the D/T limit from a particular controlled plant; or

(b) a controlled chemical,

except under and in accordance with a valid permission issued to him by the Authority for the purpose.

[Regulation 5 amended by BR 97/2007 reg. 4 effective 14 December 2007; Regulation 5 paragraph (aa) inserted by BR 8 / 2026 reg. 3 effective 31 January 2026]

Control of certain chemicals

6 A person shall not import into Bermuda, or use in Bermuda, or export from Bermuda, a controlled chemical except under and in accordance with a valid permission issued to him by the Authority for the purpose.

[Regulation 6 amended by BR 97/2007 reg. 4 effective 14 December 2007]

Protection of the ambient air

7 (1) A person shall not emit, or cause or permit to be emitted, from any source any specified air contaminant so as to cause the concentration of that air contaminant to exceed the relevant maximum limit per year prescribed in Schedule 2.

(2) For the purposes of paragraph (1), a person shall not exceed—

(a) the concentration of a specified air contaminant for the protection of human health listed in Part 1 of Schedule 2;

(b) the concentration of a specified air contaminant for the protection of vegetation and ecosystems listed in Part 2 of Schedule 2.

(3) In this regulation—

"concentration" means concentration in the ambient air;

"specified air contaminant" means any of the following air contaminants—

(a) sulphur dioxide;

(b) nitrogen dioxide;

(c) nitrogen oxides;

(d) inhalable particulate matter less than 10 micro-meters in size (PM_{10});

(e) inhalable particulate matter less than 2.5 micro-meters in size ($PM_{2.5}$);

(f) carbon monoxide;

(g) ozone;

(h) lead;

(i) hydrogen chloride gas;

(j) hydrogen sulphide;

(k) benzene;

(l) poly-aromatic hydrocarbon (PAH) as benzo[a]pyrene (B[a]P).

[Regulation 7 revoked and substituted by BR 8 / 2026 reg. 4 effective 31 January 2026]

Concentration of air contaminant criteria

7A (1) The Minister shall assess the concentration of air contaminants across the whole or any part of Bermuda.

(2) Where the concentration of air contaminants exceed the maximum limits prescribed in Schedule 2, fixed measurements taken at monitoring stations approved by the Authority shall be used, but may be supplemented by modelling measurements in order to provide adequate information on the spatial distribution of the ambient air quality.

(3) In all areas where the level of those pollutants is unknown, but complaints that have been validated by an inspector may suggest a concentration exceeding a limit prescribed in Schedule 2 then modelling or estimation techniques or both may be used prior to considering the use of measurements.

(4) In all other areas a combination of fixed measurements, modelling or "indicative" measurements or both modelling and indicative measurements may be used.

(5) For the purposes of paragraphs (1) to (4), measurements shall be carried out in accordance with the criteria set out in Schedule 3.

(6) Save as provided for in paragraph (7), measurements shall be taken in accordance with the "reference" or "equivalent" measurement methods specified in Schedule 3.

(7) Where measurements are supplemented by modelling or "indicative" measurements then the Minister shall take account of the results of those supplementary methods in assessing ambient air quality.

[Regulation 7A inserted by BR 8 / 2026 reg. 5 effective 31 January 2026]

Protection of the ambient air against nuisance odour

7B (1) A person granted an operating licence shall not emit, or cause or permit to be emitted a nuisance odour so as to cause the concentration of the odour to exceed the maximum requirements per year as provided in Schedule 4.

(2) For the purposes of paragraph (1), a person granted an operating licence under section 9 of the Clean Air Act 1991 shall—

(a) meet the D/T limits in Schedule 4;

(b) meet the operations and abatement equipment recommendations by the Authority as agreed by the licencee, for the purposes of preventing nuisance odours;

(c) take all the appropriate preventative measures against nuisance odours, in particular through application of the best available technologies.

(3) After consultation with the Authority, the Minister may, by order subject to the affirmative resolution procedure, amend the D/T limits in Schedule 4.

[Regulation 7B inserted by BR 8 / 2026 reg. 5 effective 31 January 2026]

Visibility impact control of air contaminants

8 (1) A person (in this regulation called an "owner") shall not emit, or cause or permit to be emitted, from any source an air contaminant—

(a) of an opacity exceeding 15%, averaged over a period of six consecutive minutes in any one hour; or

(b) in a concentration such as to cause an impairment of visibility on any public road, being an impairment amounting to a nuisance.

(2) Paragraph (1) applies in relation to an owner as respects an emission of air, whether the air is—

(a) air emanating from a source for which he is alone responsible; or

(b) such air mixed with other air.

(3) Nothing in paragraph (1) or (2) prevents the Authority from including in an operating licence for a plant more stringent controls on concentration than those specified in those paragraphs.

(4) Nothing in paragraph (1) or (2) applies in relation to—

(a) a fire—

(i) used in fire-fighting training conducted by or under the direction of the Chief Fire Officer; or

(ii) used for warmth, comfort or recreational purposes inside a dwelling, or for recreational purposes outside a dwelling; or

(iii) authorized by or under these Regulations for disposing of burnable or prohibited debris; or

(b) an operation or activity specifically authorized by the Authority by notice in writing for a period specified in that notice.

(5) The measuring of opacity for the purposes of sub-paragraph (a) of paragraph (1) shall be done either—

(a) by an inspector unaided by any mechanical instrument; or

(b) by an inspector using an analytical instrument approved by the Authority for the purposes of this paragraph.

(6) In this regulation—

"air contaminant" has the same meaning as assigned to it in the Clean Air Act 1991;

"inspector" means an inspector who is certified by the Authority as having successfully completed a recognized course of instruction as a visible emission reader;

"opacity", in relation to an air contaminant, means the degree to which that air contaminant obstructs the passage of light.

[Regulation 8 amended by BR 97/2007 reg. 5 effective 14 December 2007; Regulation 8(1) subparagraph (a) revoked and substituted by BR 8 / 2026 reg. 6 effective 31 January 2026]

Fuel sulphur restrictions at controlled plants

9 (1) A person shall not—

(a) purchase or sell, or cause or permit to be purchased or sold, for use at a plant; or

(b) use at a plant,

a prohibited fuel.

(2) In this regulation "prohibited fuel" means a fuel containing more than 2.0% sulphur by weight, and "approved fuel" means a fuel containing 2.0% sulphur by weight or less.

(3) Paragraph (1) does not apply in relation to the purchase, sale or use of a prohibited fuel by a person if the Authority is satisfied in his case—

(a) that, by reason of the sulphur compounds having been removed from the flue gas of the fuel, the emissions of sulphur compounds into the ambient air resulting from the use of the fuel at the plant in question will be no greater than would occur if paragraph (1) were complied with; or

(b) that an approved fuel is not available to that person.

(4) Notwithstanding paragraph (1), the Authority may by notice in writing to the operator of a plant reduce, in relation to that plant, the percentage prescribed by that

paragraph to such extent and in such circumstances and for such period as the Authority thinks fit; and, where such a notice has been given to an operator, paragraph (1) shall have effect mutatismutandis in relation to the plant in question for as long as the notice is in force.

[Regulation 9 amended by BR 97/2007 reg. 6 effective 14 December 2007]

Duty to make a report in certain cases

10 (1) If at a plant there occurs—

(a) an uncontrolled release of an air contaminant; or

(b) a controlled release of an air contaminant, not being a release authorized by the operating licence; or

(c) an accidental release or discharge of an air contaminant; or

(d) an accidental release or discharge of a nuisance odour,

the operator shall report the occurrence to the Minister forthwith.

(2) Where the Minister receives a report under paragraph (1), he may require the operator to furnish to him, whether or not in writing and, if need be, within a specified time, such particulars of the occurrence as the Minister thinks necessary.

[Regulation 10(1) subparagraph (d) inserted by BR 8 / 2026 reg. 7 effective 31 January 2026]

Offences

11 (1) A person who contravenes a prohibition contained in regulations 3 to 9, being a prohibition applying to him, commits an offence.

(2) An operator who—

(a) contravenes paragraph (1) of regulation 10; or

(b) fails to comply with a requirement made of him under paragraph (2) of that regulation,

commits an offence.

(3) It is a defence for an operator charged with an offence under paragraph (1) of regulation 10 to prove that neither he nor any one else engaged in the operation of the plant had knowledge of the occurrence or could reasonably be expected to have such knowledge.

(4) A person convicted of an offence is liable to imprisonment for a term not exceeding 6 months or a fine not exceeding $5,000 or to both.

(5) “Offence” in this regulation means summary offence.

Commencement

12 These Regulations come into operation on the commencement of the Clean Air Act 1991 .

SCHEDULE 1

(regulation 2)

CONTROLLED CHEMICALS

Antimony and compounds

Arsenic and compounds

Asbestos (fibers)

Asphalt (petroleum) fume

Barium

Benzene and compounds

Benzo(a)pyrene (Note that this is a polycylic aromatic hydrocarbon listed below)

Beryllium and compounds

Bromine and compounds

Cadmium and compounds

Calcium sulphate

Chlorinated dibenzo-p-dioxins (dioxins)

Chlorine and compounds

Chloroform

Chromium and compounds

Cobalt and compounds

Copper and compounds

Cresols

Cyanide and compounds

Dichlorobenzene

Dichlorobenzidine

Glycol ethers

Hydrochloric acid

Hydrogen bromide

Hydrogen chloride

Hydrogen cyanide

Hydrogen peroxide

Hydrogen sulfide

Lead and compounds

Manganese compounds

Mercaptans

Mercury and compounds

Molybdenum

Nickel and compounds

Nitric acid

Ozone-depleting Chemicals & gases with high Global Warming Potential (GWP)

Phosphoric acid

Polybrominated biphenyls

Polychlorinated biphenyls

Pentachlorophenol

Polycylic aromatic hydrocarbons (PAHs, including coal-tar products used in surface treatments for tarmacadam)

Polyvinyl chloride

Radionuclides

Selenium and compounds

Styrene

Sulphuric acid

Tin and compounds

Vanadium and compounds

Vinyl chloride

Zinc and compounds

Ozone-depleting chemicals & gases with high Global Warming Potential (GWP):

TABLE 1. Annex A of Montreal Protocol 1987: Controlled Chemicals (Chlorofluorocarbons - CFCs and Halons)

Group	Sub-stance	Substance technical name	Ozone-Depleting Potential*	100-year Global Warming Potential***
Group I				
$CFCl_3$	(CFC-11)	Tri-chlorofluoromethane	1.0	4,750
CF_2Cl_2	(CFC-12)	Di-chlorofluoromethane	1.0	10,900
$C_2F_3Cl_3$	(CFC-113)	Tri-chlorotrifluoroethane	0.8	6,130
$C_2F_4Cl_2$	(CFC-114)	Di-chlorotetrafluoroethane	1.0	10,000
C_2F_5Cl	(CFC-115)	Chloro-pentafluoroethane	0.6	7,370
Group II				
CF_2BrCl	(halon-1211)	Bromo-chlorodifluoromethane	3.0	
CF_3Br	(halon-1301)	Bromo-trifluoromethane	10.0	
$C_2F_4Br_2$	(halon-2402)	Di-bromotetrafluoroethane	6.0	

TABLE 2. Annex B of Montreal Protocol 1987: Controlled Chemicals (Chlorofluorocarbons - CFCs)

Group	Substance	Substance technical name (Includes all Isomers)	Ozone-depleting Potential*
Group I			
CF_3Cl	(CFC-13)	Chloro-trifluoromethane	1.0
C_2FCl_5	(CFC-111)	Penta-chlorofluoroethane	1.0
$C_2F_2Cl_4$	(CFC-112)	Tetra-chlorodifluoroethane	1.0
C_3FCl_7	(CFC-211)	Hepta-chlorofluoropropane	1.0
$C_3F_2Cl_6$	(CFC-212)	Hexa-chlorodifluoropropane	1.0
$C_3F_3Cl_5$	(CFC-213)	Penta-chlorotrifluoropropane	1.0
$C_3F_4Cl_4$	(CFC-214)	Tetra-chlorotetrafluoropropane	1.0
$C_3F_5Cl_3$	(CFC-215)	Tri-chloropentafluoropropane	1.0
$C_3F_6Cl_2$	(CFC-216)	Di-chlorohexafluoropropane	1.0
C_3F_7Cl	(CFC-217)	Chloro-heptafluoropropane	1.0
Group II			
CCl_4	carbon tetrachloride	Carbon Tetrachloride	1.1
Group III			
$C_2H_3Cl_3$†	methyl chloroform	1,1,1-trichloroethane †	0.1

† This formula does not refer to 1,1,2-trichloroethane

TABLE 3. Annex C of Montreal Protocol 1987: Controlled Chemicals (Hydrochlorofluorocarbons - HCFCs)

Group	Sub-stance	Substance Technical Name (Includes all Isomers)	Number of Isomers	Ozone Depleting Potential*	100-Year Global Warming Potential***
Group I					

TABLE 3. Annex C of Montreal Protocol 1987: Controlled Chemicals (Hydrochlorofluorocarbons - HCFCs)

Group	Sub-stance	Substance Technical Name (Includes all Isomers)	Number of Isomers	Ozone Depleting Potential*	100-Year Global Warming Potential***
$CHFCl_2$	(HCFC-21)**	Di-chlorofluoro-methane	1	0.04	151
CHF_2Cl	(HCFC-22)**	Chloro-difluoromethane	1	0.055	1810
CH_2FCl	(HCFC-31)	Chloro-fluoromethane	1	0.02	
C_2HFCl_4	(HCFC-121)	Tetra-chlorofluoroethane	2	0.01-0.04	
$C_2HF_2Cl_3$	(HCFC-122)	Trich-lorodifluoroethane	3	0.02-0.08	
$C_2HF_3Cl_2$	(HCFC-123)	Di-chlorotrifluoro-ethane	3	0.02-0.06	77
C_2HF_4Cl	(HCFC-124)	Chloro-tetrafluoroethane	2	0.02-0.04	609
$C_2H_2FCl_3$	(HCFC-131)	Tri-chlorofluoroethane	3	0.007-0.05	
$C_2H_2F_2Cl_2$	(HCFC-132)	Di-chlorodifluoroethane	4	0.008-0.05	
$C_2H_2F_3Cl$	(HCFC-133)	Chloro-Trifluoroethane	3	0.02-0.06	
$C_2H_3FCl_2$	(HCFC-141)	Di-chlorofluoroethane	3	0.005-0.07	
$C_2H_3F_2Cl$	(HCFC-142)	Chloro-difluoroethane	3	0.008-0.07	
C_2H_4FCl	(HCFC-151)	Chloro-fluoroethane	2	0.003-0.005	
C_3HFCl_6	(HCFC-221)	Hexa-chlorofluoro-propane	5	0.0015-0.07	
$C_3HF_2Cl_5$	(HCFC-222)	Penta-chlorodifluoro-propane	9	0.01-0.09	
$C_3HF_3Cl_4$	(HCFC-223)	Tetra-chlorotrifluoro-propane	12	0.01-0.08	

TABLE 3. Annex C of Montreal Protocol 1987: Controlled Chemicals (Hydrochlorofluorocarbons - HCFCs)

Group	Sub-stance	Substance Technical Name (Includes all Isomers)	Number of Isomers	Ozone Depleting Potential*	100-Year Global Warming Potential***
$C_3HF_4Cl_3$	(HCFC-224)	Tri-chlorotetrafluoro-propane	12	0.01-0.09	
$C_3HF_5Cl_2$	(HCFC-225)	Di-chloropenta-fluoro-propane	9	0.02-0.07	
C_3HF_6Cl	(HCFC-226)	Chloro-hexafluoro-propane	5	0.02–0.10	
$C_3H_2FCl_5$	(HCFC-231)	Penta-chlorofluoro-propane	9	0.05–0.09	
$C_3H_2F_2Cl_4$	(HCFC-232)	Tetra-chlorodifluoro-propane	16	0.008–0.10	
$C_3H_2F_3Cl_3$	(HCFC-233)	Tri-chlorotrifluoro-propane	18	0.007–0.23	
$C_3H_2F_4Cl_2$	(HCFC-234)	Di-chlorotetrafluoro-propane	16	0.01–0.28	
$C_3H_2F_5Cl$	(HCFC-235)	Chloro-pentafluoropropane	9	0.03–0.52	
$C_3H_3FCl_4$	(HCFC-241)	Tetra-chlorofluoro-propane	12	0.004–0.09	
$C_3H_3F_2Cl_3$	(HCFC-242)	Tri-chlorodifluoro-propane	18	0.005–0.13	
$C_3H_3F_3Cl_2$	(HCFC-243)	Di-chlorotrifluoro-propane	18	0.007–0.12	
$C_3H_3F_4Cl$	(HCFC-244)	Chloro-tetrafluoro-propane	12	0.009–0.14	
$C_3H_4FCl_3$	(HCFC-251)	Tri-chlorofluoropropane	12	0.001–0.01	
$C_3H_4F_2Cl_2$	(HCFC-252)	Di-chlorodifluoro-propane	16	0.005–0.04	
$C_3H_4F_3Cl$	(HCFC-253)	Chlorotrifluoro-propane	12	0.003–0.03	

TABLE 3. Annex C of Montreal Protocol 1987: Controlled Chemicals (Hydrochlorofluorocarbons - HCFCs)

Group	Sub-stance	Substance Technical Name (Includes all Isomers)	Number of Isomers	Ozone Depleting Potential*	100-Year Global Warming Potential***
$C_3H_5FCl_2$	(HCFC-261)	Di-chlorofluoropropane	9	0.002–0.02	
$C_3H_5F_2Cl$	(HCFC-262)	Chloro-difluoropropane	9	0.002–0.02	
C_3H_6FCl	(HCFC-271)	Chloro-fluoropropane	5	0.001–0.03	
Group II					
$CHFBr_2$		Di-bromofluoro-methane	1	1	
CHF_2Br	(HBFC-22B1)	Bromodifluoro-methane	1	0.74	
CH_2FBr		Bromo-fluoro-methane	1	0.73	
C_2HFBr_4		Tetra-bromofluoro-ethane	2	0.3–0.8	
$C_2HF_2Br_3$		Tri-bromodifluoro-ethane	3	0.5–1.8	
$C_2HF_3Br_2$		Dibromotrifluoro-ethane	3	0.4–1.6	
C_2HF_4Br		Bromo-tetrafluoro-ethane	2	0.7–1.2	
$C_2H_2FBr_3$		Tri-bromofluoro-ethane	3	0.1–1.1	
$C_2H_2F_2Br_2$		Di-bromodifluoro-ethane	4	0.2–1.5	
$C_2H_2F_3Br$		Bromotrifluoro-ethane	3	0.7–1.6	
$C_2H_3FBr_2$		Di-bromofluoro-ethane	3	0.1–1.7	
$C_2H_3F_2Br$		Bromodifluoro-ethane	3	0.2–1.1	
C_2H_4FBr		Bromofluoro-ethane	2	0.07–0.1	
C_3HFBr_6		Hexabromofluoro-propane	5	0.3–1.5	
$C_3HF_2Br_5$		Penta-bromodifluoro-propane	9	0.2–1.9	
$C_3HF_3Br_4$		Tetra-bromotrifluoro-propane	12	0.3–1.8	

TABLE 3. Annex C of Montreal Protocol 1987: Controlled Chemicals (Hydrochlorofluorocarbons - HCFCs)

Group	Sub-stance	Substance Technical Name (Includes all Isomers)	Number of Isomers	Ozone Depleting Potential*	100-Year Global Warming Potential***
$C_3H_4Br_3$		Tribromotetrafluoro-propane	12	0.5–2.2	
$C_3HF_5Br_2$		Di-bromopentafluoro-propane	9	0.9–2.0	
C_3HF_6Br		Bromohexa-fluoro-propane	5	0.7–3.3	
$C_3H_2FBr_5$		Penta-bromofluoro-propane	9	0.1–1.9	
$C_3H_2F_2Br_4$		Tetrabromodi-fluoro-propane	16	0.2–2.1	
$C_3H_2F_3Br_3$		Tribromotrifluo-propane	18	0.2–5.6	
$C_3H_2F_4Br_2$		Di-bromotetra-fluoro-propane	16	0.3–7.5	
$C_3H_2F_5Br$		Bromo-pentafluoro-propane	8	0.9–1.4	
$C_3H_3FBr_4$		Tetrabromofluoro-propane	12	0.08–1.9	
$C_3H_3F_2Br_3$		Tri-bromodifluoro-propane	18	0.1–3.1	
$C_3H_3F_3Br_2$		Di-bromotrifluo-propane	18	0.1–2.5	
$C_3H_3F_4Br$		Bromo-tetrafluoro-propane	12	0.3–4.4	
$C_3H_4FBr_3$		Tri-bromofluoro-propane	12	0.03–0.3	
$C_3H_4F_2Br_2$		Di-bromodifluoro-propane	16	0.1–1.0	
$C_3H_4F_3Br$		Bromotrifluo-propane	12	0.07–0.8	
$C_3H_5FBr_2$		Dibromofluoro-propane	9	0.04–0.4	
$C_3H_5F_2Br$		Bromodifluoro-propane	9	0.07–0.8	
C_3H_6FBr		Bromofluoro-propane	5	0.02-0.7	
Group III					

TABLE 3. Annex C of Montreal Protocol 1987: Controlled Chemicals (Hydrochlorofluorocarbons - HCFCs)

Group	Sub-stance	Substance Technical Name (Includes all Isomers)	Number of Isomers	Ozone Depleting Potential*	100-Year Global Warming Potential***
CH_2BrCl	bromo-chloro-methane	bromochloro-methane	1	0.12	

Any refrigerant with a high global warming potential shall be considered as a controlled chemical under these Regulations.

TABLE 4. Annex E of Montreal Protocol 1987: Controlled Chemicals

Group	Substance	Ozone-Depleting Potential*
Group I		
CH_3Br	methyl bromide	0.6

TABLE 5. Annex F of Montreal Protocol 1987: Controlled Chemicals (Hydrofluorocarbons - HFCs)

Group	*Substance (Formula/Common name)*	Substance Technical name	*100-Year Global Warming Potential****
Group I			
CHF_2CHF_2	HFC-134	1,1,2,2-Tetrafluoroethane	1,100
CH_2FCF_3	HFC-134a	1,1,1,2-Tetrafluoroethane	1,430
CH_2FCHF_2	HFC-143	1,1,2-Trifluoroethane	353
$CHF_2CH_2CF_3$	HFC-245fa	1,1,1,3,3-Pentafluoropropane	1,030
$CF_3CH_2CF_2CH_3$	HFC-365mfc	1,1,1,3,3-Pentafluorobutane	794
CF_3CHFCF_3	HFC-227ea	1,1,1,2,3,3,3-Heptafluoropropane	3,220
$CH_2FCF_2CF_3$	HFC-236cb	1,1,1,2,2,3-Hexafluoropropane	1,340
CHF_2CHFCF_3	HFC-236ea	1,1,1,2,3,3-Hexafluoropropane	1,370
$CF_3CH_2CF_3$	HFC-236fa	1,1,1,3,3,3-Hexafluoropropane	9,810
$CH_2FCF_2CHF_2$	HFC-245ca	1,1,2,2,3-Pentafluoropropane	693

TABLE 5. Annex F of Montreal Protocol 1987: Controlled Chemicals (Hydrofluorocarbons - HFCs)

Group	***Substance (Formula/Common name)***	**Substance Technical name**	***100-Year Global Warming Potential******
$CF_3CHFCHFCF_2CF_3$	HFC-43-10mee	1,1,1,2,3,4,4,5,5,5-Decafluoropentane	1,640
CH_2F_2	HFC-32	Difluoromethane	675
CHF_2CF_3	HFC-125	Pentafluoroethane	3,500
CH_3CF_3	HFC-143a	1,1,1-Trifluoroethane	4,470
CH_3F	HFC-41	Fluoromethane	92
CH_2FCH_2F	HFC-152	1,2-Difluoroethane	53
CH_3CHF_2	HFC-152a	1,1-Difluoroethane	124
Group II			
CHF_3	HFC-23	Trifluoromethane (Fluoroform)	14,800

*Where a range of ozone depleting products (ODPs) is indicated, the highest value in that range shall be used for the purposes of the Protocol. The ODPs listed as a single value have been determined from calculations based on laboratory measurements. Those listed as a range are based on estimates and are less certain. The range pertains to an isomeric group. The upper value is the estimate of the ODP of the isomer with the highest ODP, and the lower value is the estimate of the ODP of the isomer with the lowest ODP.

** Identifies the most commercially viable substances with ODP values listed against them to be used for the purposes of the Protocol.

*** For substances for which no GWP is indicated, the default value 0 applies until a GWP value is included by means of the procedure foreseen in paragraph 9(a)(ii) of Article 2.

[Schedule 1 revoked and substituted by BR 8 / 2026 reg. 8 effective 31 January 2026]

SCHEDULE 2

(regulation 7)

PROTECTION OF THE AMBIENT AIR MAXIMUM LIMITS

Part 1 - protection of human health

Air contaminant	Period of monitoring for each standard	Maximum number of exceedances of concentration limits per year
Sulphur dioxide (SO_2)	15-minute	266 $\mu g/m^3$ not to be exceeded more than 35 times in a calendar year
	1-hour	350 $\mu g/m^3$ not to be exceeded more than 24 times in a calendar year
	24-hour	125 $\mu g/m^3$ not to be exceeded more than 3 times in a calendar year
Nitrogen dioxide (NO_2)	1-hour	200 $\mu g/m^3$ not to be exceeded more than 18 times in a calendar year
	1-year	40 $\mu g/m^3$ not to be exceeded within a calendar year
Inhalable particulate matter less than 10 micro-meters in size (PM_{10})	24-hour	50 $\mu g/m^3$
	1-year	30 $\mu g/m^3$ annual mean
Inhalable particulate matter less than 2.5 micro-meters in size ($PM_{2.5}$)	24-hour	35 $\mu g/m^3$ in the 98th percentile, averaged over 3 years
	1-year	9 $\mu g/m^3$ annual mean
Carbon monoxide (CO)	1-hour	15,000 $\mu g/m^3$
	8-hour	6,000 $\mu g/m^3$ running an 8-hour mean
Ozone (O_3)	1-hour	160 $\mu g/m^3$
	8-hour	100 $\mu g/m^3$ not to be exceeded more than 10 times in a calendar year
	1-year	60 $\mu g/m^3$
Lead	24-hour	50 $\mu g/m^3$

Part 1 - protection of human health

Air contaminant	Period of monitoring for each standard	Maximum number of exceedances of concentration limits per year
(Pb)	30-day	1.5 $\mu g/m^3$
	1-year	0.25 $\mu g/m^3$ annual mean
Hydrogen chloride gas (HCl)	1-hour	100 $\mu g/m^3$
	24-hour	40 $\mu g/m^3$
Hydrogen sulphide (H_2S)	1-hour	14 $\mu g/m^3$
	24-hour	4 $\mu g/m^3$
Benzene	1-year	3.25 $\mu g/m^3$ annual mean
Poly-aromatic hydrocarbon (PAH) as Benzo[a]Pyrene (B[a]P)	1-year	0.00025 $\mu g/m^3$ running annual mean

Part 2 - protection of vegetation and ecosystems

Air contaminant	Period of monitoring for each standard	Maximum concentration limits per year
Nitrogen oxides	1-year	30 $\mu g/m^3$ annual mean
Sulphur dioxide	1-year	20 $\mu g/m^3$ annual mean

[Schedule 2 inserted by BR 8 / 2026 reg. 9 effective 31 January 2026]

SCHEDULE 3

(regulation 7A)

METHODOLOGIES AND PROCESSES FOR MEASURING AIR CONTAMINANTS IN AMBIENT AIR

The following "reference" and "equivalent" standards are approved, that is to say, the air pollution measurement standards in respect of licences set from time to time—

(a) United States U.S. Environmental Protection Agency: approved using the Federal Reference Methods (FRM) and Federal Equivalent Methods (FEM) under Title 40, Part 53 of the Code of Federal Regulations (40CFR53);

(b) European Union EU: approved using the Standard Methods for Type Approval of the monitoring of air pollutants under Directive 2008/50/EC on "*ambient air quality and cleaner air for Europe*" as amended by Commission Directive (EU) 2014/1480 on the "*laying down rules concerning reference methods, data validation and location of sampling points for the assessment of ambient air quality*";

(c) United Kingdom: approved using the MCERTS Performance Standards scheme.

The following "indicative" monitoring methods are approved, in respect of licences set from time to time—

(a) United States Environmental Protection Agency (US EPA) air sensor toolbox (https://www.epa.gov/air-sensor-toolbox);

(b) United Kingdom DEFRA Air Quality Expert Group (AQEG) "low-cost" pollution sensors (https://uk-air.defra.gov.uk/research/aqeg/pollution-sensors.php).

[Schedule 3 inserted by BR 8 / 2026 reg. 9 effective 31 January 2026]

SCHEDULE 4

(regulation 7B)

DETERMINING IF AN OFFENSIVE ODOUR IS A "NUISANCE ODOUR"

1 Many types of controlled plants will generate odours that are particular to the licenced process and facility. Odours are only considered to be a "nuisance odour" once above a particular concentration, however, determining odour concentration is complex and the human nose often provides the best assessment method. Most methods rely upon diluting the offending odour with odourless-air to the point where the odour is no longer detectable by trained inspectors. This dilution method with odourless-air is referred to as Dilution-to-Threshold (D/T) whereby a particular odour source will have a specific D/T limit assigned to it at the location of the nearest off-site neighbour(s).

2 The D/T method can be used to determine whether odour is considered a "nuisance odour" at the neighbouring property from controlled plants such as—

(a) aerated sewage treatment plants;

(b) spray paint facilities;

(c) fuel storage facilities;

(d) electrical generators;

(e) incinerators;

(f) waste management sites, etc.

3 If the odour is detectable by trained inspectors after the D/T limit has been reached, then that odour is considered to represent a "nuisance odour". It is noted that odours will be apparent to neighbours at "non-nuisance" levels but should, according to best practice D/T limits, be less offensive to neighbours when compared to odours detected above the D/T limits, which represent "nuisance odour" levels. It is noted that certain odours are more 'offensive' than others, which can result in different D/T limits being set for different types of odours in some jurisdictions.

4 There are a range of measures available that can be used to help mitigate the impact of "nuisance" odours to neighbours. These include, but are not limited to, physical abatement measures applied to exhaust stacks in addition to changes to the processes, equipment, enclosures and to the operating hours. Such mitigation processes are to be considered by the Minister and licencee where 'nuisance' odours are impacting the public using best available technologies for the controlled plant in question.

5 Dilution-to-Threshold (D/T) is defined as the amount of dilution with odourless-air where one of two trained inspectors will perceive a nuisance odour.

6 The D/T limit that is typically considered to represent the threshold between "non-nuisance" and 'nuisance' odour is 5:1 (i.e. 5-parts odourless-air to 1-part odour complaint air). A 5:1 D/T nuisance threshold is considered to represent a typical odour limit when compared to a US standard using equipment tested and adapted for Bermuda's size (and isolated location) and verified against UK/EU testing methodologies. At this time all controlled plants shall be required to ensure that they do not create a "nuisance odour" to their neighbours. Refinement of the 5:1 D/T in the future may be required for certain controlled plants as this odour assessment technique becomes more established in Bermuda and greater understanding of what constitutes an "offensive" odour becomes known.

7 If at least one of the trained inspectors can detect the nuisance odour beyond a dilution of 5:1 then that odour is considered to represent a "nuisance odour."

8 Inspectors shall be trained and assessed at odour detection at recognised odour training centres.

9 Before an odour is considered a "nuisance" any one of two (2) trained inspectors shall have assessed the odour and considered it a nuisance (i.e. detectable at greater than a dilution of 5:1).

10 Odour assessment using the D/T method is determined at the location of the neighbours being impacted by the odour from the controlled plant, as defined under the Clean Air Act 1991.

11 Exceedance of the 5:1 D/T limit, as determined by any one of two (2) trained inspectors, thereby constituting a "nuisance odour", shall not be exceeded more than twice per year. Upon exceedance of the "nuisance odour" limit, the inspector may serve an Emission Control Order on the person owning or operating the controlled plant that is considered to be the source of the "nuisance odour". (i.e. section 12(1)(iv) and section 12(1)(c) of the Clean Air Act 1991).

[Schedule 4 inserted by BR 8 / 2026 reg. 9 effective 31 January 2026]

[Amended by:
BR 97 / 2007
BR 8 / 2026]