

## **ANNEX 8A.1**

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# **PREFIXES, UNITS AND ABBREVIATIONS, STANDARD EQUIVALENTS**

## Annex 8A.1 Prefixes, units and abbreviations, standard equivalents

### Prefixes and multiplication factors

Multiplication Factor	Abbreviation	Prefix	Symbol
1 000 000 000 000 000	10 <sup>15</sup>	peta	P
1 000 000 000 000	10 <sup>12</sup>	tera	T
1 000 000 000	10 <sup>9</sup>	giga	G
1 000 000	10 <sup>6</sup>	mega	M
1 000	10 <sup>3</sup>	kilo	k
100	10 <sup>2</sup>	hecto	h
10	10 <sup>1</sup>	deca	da
0.1	10 <sup>-1</sup>	deci	d
0.01	10 <sup>-2</sup>	centi	c
0.001	10 <sup>-3</sup>	milli	m
0.000 001	10 <sup>-6</sup>	micro	μ

### Units and abbreviations

cubic metre	m <sup>3</sup>
hectare	ha
gram	g
tonne	t
Joule	J
degree Celsius	°C
calorie	cal
year	yr
capita	cap
gallon	gal
dry matter	d.m.
kilogram	kg
pound	lb
atmosphere	atm
Pascal	Pa
hour	h
Watt	W

## Units and abbreviations, and standard equivalents

1 tonne of oil equivalent (toe)	1 toe	1 x 10 <sup>10</sup> calories	1 x 10 <sup>10</sup> cal
1 ktoe		41.868 terajoules	41.868 TJ
1 short ton	1 sh t	0.9072 tonne	0.9072 t
1 tonne	1 t	1.1023 short tons	1.1023 sh t
1 tonne	1 t	1 megagram	1 Mg
1 kilotonne	1 kt	1 gigagram	1 Gg
1 megatonne	1 Mt	1 teragram	1 Tg
1 gigatonne	1 Gt	1 petagram	1 Pg
1 kilogram	1 kg	2.2046 pounds	2.2046 lb
1 hectare	1 ha	10 <sup>4</sup> square meters	10 <sup>4</sup> m <sup>2</sup>
1 calorie <sub>IT</sub>	1 cal <sub>IT</sub>	4.1868 Joules	4.1868 J
1 atmosphere	1 atm	101.325 kilopascal	101.325 kPa
1 gram	1 g	0.002205 pounds	0.00205 lb
1 pound	1 lb	453.6 gram	453.6 g
1 terajoule	1 TJ	2.78 x 10 <sup>5</sup> kilowatt hour	2.78 x 10 <sup>5</sup> kWh
1 kilowatt hour	1 kWh	3.6 x 10 <sup>6</sup> Joules	3.6 x 10 <sup>6</sup> J

## Formulae for chemical compounds

Chemical formula	Gas
CO <sub>2</sub>	Carbon dioxide
CH <sub>4</sub>	Methane
N <sub>2</sub> O	Nitrous oxide
HFCs	Hydrofluorocarbons
PFCs	Perfluorocarbons
SF <sub>6</sub>	Sulphur hexafluoride
NF <sub>3</sub>	Nitrogen trifluoride
SF <sub>5</sub> CF <sub>3</sub>	Trifluoromethyl sulphur pentafluoride
CFCs	Chlorofluorocarbons
CHF <sub>3</sub>	HFC-23
CH <sub>2</sub> F <sub>2</sub>	HFC-32
CH <sub>3</sub> F	HFC-41
CHF <sub>2</sub> CF <sub>3</sub>	HFC-125
CHF <sub>2</sub> CHF <sub>2</sub>	HFC-134
CH <sub>2</sub> FCF <sub>3</sub>	HFC-134a
CHF <sub>2</sub> CH <sub>2</sub> F	HFC-143
CF <sub>3</sub> CH <sub>3</sub>	HFC-143a
CH <sub>2</sub> FCH <sub>2</sub> F	HFC-152
CH <sub>3</sub> CHF <sub>2</sub>	HFC-152a
CH <sub>3</sub> CH <sub>2</sub> F	HFC-161
CF <sub>3</sub> CHFCF <sub>3</sub>	HFC-227ea
CH <sub>2</sub> FCF <sub>2</sub> CF <sub>3</sub>	HFC-236cb
CHF <sub>2</sub> CHFCF <sub>3</sub>	HFC-236ea

## Formulae for chemical compounds (Continued)

Chemical formula	Gas
$\text{CF}_3\text{CH}_2\text{CF}_3$	HFC-236fa
$\text{CH}_2\text{FCF}_2\text{CHF}_2$	HFC-245ca
$\text{CHF}_2\text{CH}_2\text{CF}_3$	HFC-245fa
$\text{CF}_3\text{CH}_2\text{CF}_2\text{CH}_3$	HFC-365mfc
$\text{CF}_3\text{CHFCHF}_2\text{CF}_3$	HFC-43-10mee
$\text{CF}_3\text{OCHF}_2$	HFE-125
$\text{CHF}_2\text{OCHF}_2$	HFE-134
$\text{CH}_3\text{OCF}_3$	HFE-143a
$\text{CF}_3\text{CHClOCHF}_2$	HCFE-235da2
$\text{CF}_3\text{CF}_2\text{OCH}_3$	HFE-245cb2
$\text{CF}_3\text{CH}_2\text{OCHF}_2$	HFE-245fa2
$\text{CHF}_2\text{CF}_2\text{OCH}_3$	HFE-254cb2
$\text{CF}_3\text{CF}_2\text{CF}_2\text{OCH}_3$	HFE-347mcc3
$\text{CHF}_2\text{CF}_2\text{CH}_2\text{OCHF}_2$	HFE-356pcf3
$\text{CHF}_2\text{CF}_2\text{OCH}_2\text{CH}_3$	HFE-374pc2
$\text{C}_4\text{F}_9\text{OCH}_3$	HFE-7100
$\text{C}_4\text{F}_9\text{OC}_2\text{H}_5$	HFE-7200
$\text{CHF}_2\text{OCF}_2\text{OC}_2\text{F}_4\text{OCHF}_2$	H-Galden 1040x
$\text{CHF}_2\text{OCF}_2\text{OCHF}_2$	HG-10
$\text{CHF}_2\text{OCF}_2\text{CF}_2\text{OCHF}_2$	HG-01
$\text{CF}_4$	Perfluoromethane
$\text{C}_2\text{F}_6$	Perfluoroethane
$\text{C}_3\text{F}_8$	Perfluoropropane
$\text{C}_4\text{F}_{10}$	Perfluorobutane
c- $\text{C}_4\text{F}_8$	Perfluorocyclobutane
$\text{C}_5\text{F}_{12}$	Perfluoropentane
$\text{C}_6\text{F}_{14}$	Perfluorohexane
c- $\text{C}_3\text{F}_6$	Perfluorocyclopropane
$\text{CF}_3\text{CHFOCF}_3$	HFE-227ea
$\text{CF}_3\text{CHFOCHF}_2$	HFE-236ea2
$\text{CF}_3\text{CH}_2\text{OCF}_3$	HFE-236fa
$\text{CHF}_2\text{CH}_2\text{OCF}_3$	HFE-245fa1
$\text{CF}_3\text{CH}_2\text{OCH}_3$	HFE-263fb2
$\text{CF}_3\text{CF}_2\text{OCF}_2\text{CHF}_2$	HFE-329mcc2
$\text{CF}_3\text{CF}_2\text{OCH}_2\text{CF}_3$	HFE-338mcf2
$\text{CF}_3\text{CF}_2\text{OCH}_2\text{CHF}_2$	HFE-347mcf2
$\text{CF}_3\text{CHF}_2\text{CF}_2\text{OCH}_3$	HFE-356mcc3
$\text{CHF}_2\text{CF}_2\text{CF}_2\text{OCH}_3$	HFE-356pcc3
$\text{CHF}_2\text{CF}_2\text{OCH}_2\text{CHF}_2$	HFE-356pcf2
$\text{CF}_3\text{CF}_2\text{CH}_2\text{OCH}_3$	HFE-365mcf3

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CF <sub>3</sub> I	Trifluoroiodomethane
CH <sub>2</sub> Br <sub>2</sub>	Dibromomethane
CHCl <sub>3</sub>	Chloroform
CH <sub>3</sub> Cl	Chloromethane
CH <sub>2</sub> Cl <sub>2</sub>	Dichloromethane
CO	Carbon monoxide
NO <sub>x</sub>	Nitrogen oxides
NM VOC	Non-methane volatile organic compound
SO <sub>2</sub>	Sulphur dioxide
NH <sub>3</sub>	Ammonia

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