

Wednesday 26 October 2005

ANNEX I

Part 1
Fluorinated greenhouse gases referred to in Article 2(1)

Fluorinated greenhouse gas	Chemical formula	Global warming potential
Sulphur hexafluoride	SF ₆	22200
Hydrofluorocarbons (HFCs):		
HFC-23	CHF ₃	12000
HFC-32	CH ₂ F ₂	550
HFC-41	CH ₃ F	97
HFC-43-10mee	C ₅ H ₂ F ₁₀	1500
HFC-125	C ₂ HF ₅	3400
HFC-134	C ₂ H ₂ F ₄	1100
HFC-134a	CH ₂ FCF ₃	1300
HFC-152a	C ₂ H ₄ F ₂	120
HFC-143	C ₂ H ₃ F ₃	330
HFC-143a	C ₂ H ₃ F ₃	4300
HFC-227ea	C ₃ HF ₇	3500
HFC-236cb	CH ₂ FCF ₂ CF ₃	1300
HFC-236ea	CHF ₂ CHFCF ₃	1200
HFC-236fa	C ₃ H ₂ F ₆	9400
HFC-245ca	C ₃ H ₃ F ₅	640
HFC-245fa	CHF ₂ CH ₂ CF ₃	950
HFC-365mfc	CF ₃ CH ₂ CF ₂ CH ₃	890
Perfluorocarbons (PFCs):		
Perfluoromethane	CF ₄	5700
Perfluoroethane	C ₂ F ₆	11900
Perfluoropropane	C ₃ F ₈	8600
Perfluorobutane	C ₄ F ₁₀	8600
Perfluoropentane	C ₅ F ₁₂	8900
Perfluorohexane	C ₆ F ₁₄	9000
Perfluorocyclobutane	c-C ₄ F ₈	10000

Part 2
Method of calculating the total global warming potential (GWP) for a preparation

The total GWP for a preparation is a weighted average, derived from the sum of the weight fractions of the individual substances multiplied by their GWPs.

$$\Sigma (\text{Substance X \%} \times \text{GWP}) + (\text{Substance Y \%} \times \text{GWP}) + \dots (\text{Substance N \%} \times \text{GWP})$$

where % is the contribution by weight with a weight tolerance of +/- 1 %.

For example: applying the formula to a theoretical blend of gases consisting of 23 % HFC-32; 25 % HFC-125 and 52 % HFC-134a;

$$\Sigma (23 \% \times 550) + (25 \% \times 3400) + (52 \% \times 1300)$$

$$\rightarrow \text{Total GWP} = 1652,5$$