

Information Submitted to IPCC EFDP 2004-05-24

Data Provider:	DuPont Fluoroproducts
Data Provider Country:	U.S.A.
Data Provider Contact:	Mack.mcfarland@usa.dupont.com
Date calculated:	2004-05-18
Gas:	HFC-23 (g04)
IPCC Source/Sink Category:	2E1 - By-product Emissions
Fuel:	NA
Properties:	
Technologies/Practices:	Cost effective process optimization technology to reduce HFC-23 by-product formation
Parameters/Conditions:	NA
Regions/Regional Conditions:	Global
Abatement/Control Technologies:	NA
Others:	Measurement was made at DuPont's Louisville Works optimized Freon 22 Plant. Results of optimization may vary at other HCFC-22 producing sites.
Description:	HCFC-22 production process optimization to reduce HFC-23 by-product to 1.37% on mass basis
Value:	0.0137 tonnes HFC-23/tonnes HCFC-22 manufactured (348)
Value in common units:	NA
Equation:	NA
IPCC Worksheet Number:	NA
Source of data:	Greenhouse Gas Emission Reduction Verification Audit
Technical Reference:	Greenhouse Gas Emission Reduction Verification Audit for DuPont's Louisville Works Freon@22 Plant conducted by ICF consulting. Copy with proprietary information removed will be supplied to TSU.
Reference language:	English
Abstract in English:	This report documents the verification of greenhouse gas emission reductions claimed over the period 1-Jan-2003 through 31-December-2003 as a result of the Freon@23 (HFC-23) abatement project at DuPont's Louisville, Kentucky Freon@22 production facility.
Upper confidence limit (95% confidence interval):	0.0140 (+ 2%)
Lower confidence limit (95% confidence interval):	0.0134 (- 2%)
Data quality:	NA
Distribution shape:	Normal (1)
Data quality reference:	See technical reference.

Other info on data quality:	HFC-23 produced is measured using flow and concentration measurement of the two process streams that contain >99.5% of the HFC-23 produced. The flow is measured by a meter that has accuracy stated as +/- 1%. The HFC-23 concentration in the process stream is automatically sampled and analyzed by a gas chromatograph at least twice per hour. The GC is calibrated at least monthly against a certified standard. Storage tank levels and weighed shipping containers are used to quantify the Freon 22 production. The scales used to weigh shipping containers are certified to be accurate +/- 0.5%. HFC-23 emission reductions, which include all of these measurements, are annually verified by a third party.
Type of parameter:	Measured (1)
Measurement technique/standard:	The mass of HFC-23 produced is measured using flow and concentration measurement of the two process streams that contain >99.5% of the HFC-23 produced. The HFC-23 concentration in the process stream is automatically sampled and analyzed by a gas chromatograph at least twice per hour. HCFC-22 produced is measured using storage tank levels and weighed shipping containers. The amount of HCFC-22 produced is the sum what is shipped and the change in on-site stored inventory.
Periodicity of measurement:	The flow measurement of the HFC-23 process stream is recorded every 15 seconds. The gas chromatograph samples alternately samples the two process streams approximately every 12 minutes, so that a single stream is sampled approximately every 24 minutes. Every HCFC-22 shipping container is weighed on the certified scale, and stored inventory is measured and recorded weekly. The period of measurement was 2002-12-31 to 2003-12-31.
External quality control performed:	Third party audit: see technical reference.
Date of measurement:	
Comments from the data provider:	The HFC-23 by-product was reduced through process optimization at DuPont's Louisville works Freon®23 Plant at a cost savings; the value of the increased HCFC-22 production more than offset the cost associated with optimization. The average mass ratio of HFC-23 by-product to HCFC-22 product for the years 2001 and 2002 are within 3% of the value for the year 2003, 0.0137.