



Certificate of Analysis

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FOR LABORATORY USE ONLY-READ MSDS PRIOR TO USE.

Catalog No. : 30603

Lot No.: A068705

Description : Volatiles MegaMix™ with Gases

Expiration Date¹: July 2014

Storage: Freezer

Elution Order	Compound	CAS #	Percent Purity ²	Concentration ³ (weight/volume)	% Uncertainty ⁴ (95% C.L.; K=2)
1	Dichlorodifluoromethane (CFC-12)	75-71-8	99%	199.926 ug/ml	+/-1.35 %
2	Chloromethane (methyl chloride)	74-87-3	99%	199.936 ug/ml	+/-1.49 %
3	Vinyl chloride	75-01-4	99%	199.770 ug/ml	+/-1.60 %
4	Bromomethane (methyl bromide)	74-83-9	99%	199.926 ug/ml	+/-1.55 %
5	Chloroethane (ethyl chloride)	75-00-3	99%	200.114 ug/ml	+/-1.62 %
6	Trichlorofluoromethane (CFC-11)	75-69-4	99%	200.140 ug/ml	+/-1.59 %
7	1,1-Dichloroethylene	75-35-4	99%	200.000 ug/ml	+/-0.66 %
8	Methylene chloride (dichloromethane)	75-09-2	99%	200.000 ug/ml	+/-0.66 %
9	trans-1,2-Dichloroethylene	156-60-5	99%	200.000 ug/ml	+/-0.66 %
10	1,1-Dichloroethane	75-34-3	99%	200.025 ug/ml	+/-0.66 %
11	2,2-Dichloropropane	594-20-7	98%	200.001 ug/ml	+/-0.59 %
12	cis-1,2-Dichloroethylene	156-59-2	99%	200.000 ug/ml	+/-0.59 %
13	chloroform	67-66-3	99%	200.050 ug/ml	+/-0.66 %
14	Bromochloromethane	74-97-5	99%	200.000 ug/ml	+/-0.59 %
15	1,1,1-trichloroethane	71-55-6	99%	200.050 ug/ml	+/-0.66 %
16	1,1-Dichloropropene	563-58-6	99%	200.000 ug/ml	+/-0.59 %
17	carbon tetrachloride	56-23-5	99%	200.030 ug/ml	+/-0.66 %
18	Benzene	71-43-2	99%	200.000 ug/ml	+/-0.59 %
19	1,2-Dichloroethane	107-06-2	99%	200.015 ug/ml	+/-0.66 %
20	trichloroethylene	79-01-6	99%	200.040 ug/ml	+/-0.66 %
21	1,2-Dichloropropane	78-87-5	99%	200.045 ug/ml	+/-0.66 %
22	bromodichloromethane	75-27-4	99%	200.320 ug/ml	+/-0.66 %
23	Dibromomethane	74-95-3	99%	200.000 ug/ml	+/-0.59 %
24	cis-1,3-Dichloropropylene	10061-01-5	99%	200.045 ug/ml	+/-0.66 %
25	Toluene	108-88-3	99%	200.000 ug/ml	+/-0.59 %
26	trans-1,3-Dichloropropylene	10061-02-6	99%	200.000 ug/ml	+/-0.66 %
27	1,1,2-Trichloroethane	79-00-5	99%	200.060 ug/ml	+/-0.66 %
28	1,3-Dichloropropane	142-28-9	99%	200.000 ug/ml	+/-0.59 %
29	tetrachloroethylene	127-18-4	99%	200.100 ug/ml	+/-0.66 %
30	dibromochloromethane	124-48-1	99%	200.170 ug/ml	+/-0.66 %
31	1,2-Dibromoethane (EDB)	106-93-4	99%	200.000 ug/ml	+/-0.59 %
32	Chlorobenzene	108-90-7	99%	200.035 ug/ml	+/-0.66 %
33	1,1,1,2-Tetrachloroethane	630-20-6	99%	200.000 ug/ml	+/-0.59 %
34	Ethylbenzene	100-41-4	99%	200.000 ug/ml	+/-0.59 %
35	m-Xylene	108-38-3	99%	200.000 ug/ml	+/-0.59 %
36	p-Xylene	106-42-3	99%	200.000 ug/ml	+/-0.59 %
37	o-Xylene	95-47-6	99%	200.000 ug/ml	+/-0.59 %
38	Styrene	100-42-5	99%	200.000 ug/ml	+/-0.59 %
39	Isopropylbenzene (cumene)	98-82-8	99%	200.000 ug/ml	+/-0.59 %
40	bromoform	75-25-2	99%	200.135 ug/ml	+/-0.66 %
41	1,1,2,2-Tetrachloroethane	79-34-5	99%	200.050 ug/ml	+/-0.66 %
42	1,2,3-Trichloropropane	96-18-4	99%	200.000 ug/ml	+/-0.59 %
43	n-Propylbenzene	103-65-1	99%	200.000 ug/ml	+/-0.59 %
44	Bromobenzene	108-86-1	99%	200.000 ug/ml	+/-0.59 %
45	1,3,5-Trimethylbenzene	108-67-8	99%	200.000 ug/ml	+/-0.59 %
46	2-Chlorotoluene	95-49-8	99%	200.000 ug/ml	+/-0.59 %

47	4-Chlorotoluene	106-43-4	99%	200.000 ug/ml	+/-0.59 %
48	tert-Butylbenzene	98-06-6	99%	200.000 ug/ml	+/-0.59 %
49	1,2,4-Trimethylbenzene	95-63-6	99%	200.000 ug/ml	+/-0.59 %
50	sec-Butylbenzene	135-98-8	99%	200.000 ug/ml	+/-0.59 %
51	4-Isopropyltoluene (p-Cymene)	99-87-6	99%	200.000 ug/ml	+/-0.59 %
52	1,3-Dichlorobenzene	541-73-1	99%	200.065 ug/ml	+/-0.66 %
53	1,4-Dichlorobenzene	106-46-7	99%	200.000 ug/ml	+/-0.66 %
54	n-Butylbenzene	104-51-8	99%	200.000 ug/ml	+/-0.59 %
55	1,2-Dichlorobenzene	95-50-1	99%	200.220 ug/ml	+/-0.66 %
56	1,2-Dibromo-3-chloropropane	96-12-8	99%	200.000 ug/ml	+/-0.59 %
57	1,2,4-Trichlorobenzene	120-82-1	97%	199.999 ug/ml	+/-0.59 %
58	Hexachlorobutadiene	87-68-3	97%	199.999 ug/ml	+/-0.59 %
59	Naphthalene	91-20-3	99%	200.000 ug/ml	+/-0.59 %
60	1,2,3-Trichlorobenzene	87-61-6	99%	200.000 ug/ml	+/-0.59 %

Solvent: P&T Methanol 67-56-1 99%

Column:

60m x .25mm x 1.4um
Rtx-502.2 (cat.#10916)

Carrier Gas:

helium @ 2.2 ml/min.

Temp. Program:

35°C (hold 6 min.) to 240°C
@ 6°C/min. (hold 1 min.)

Inj. Temp:

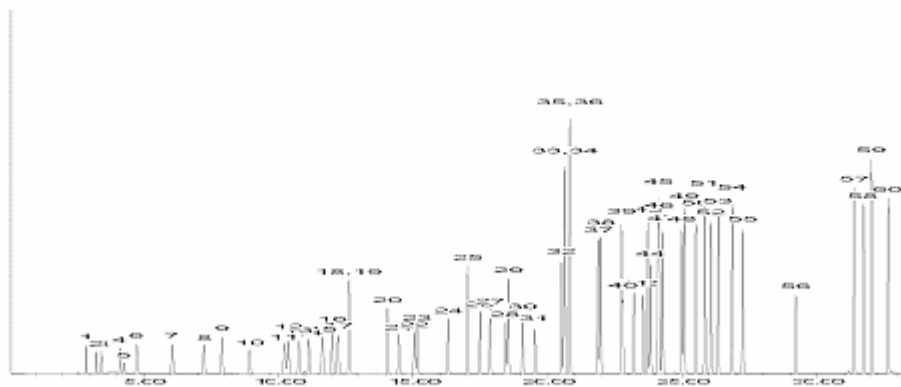
200°C

Det. Temp:

250°C

Det. Type:

MSD



Sara Eyster

Sara Eyster QA Analyst

Date Passed: 07/28/2009

Balance: 1128360905

Manufactured under Restek's ISO 9001-2000
Registered Quality System
Certificate #FMB0397

- 1 Expiration date of the unopened ampule stored at recommended temperature.
- 2A Purity was determined by one or more of the following techniques: GC/FID, HPLC, GC/ECD, GC/MS. Value rounded to the nearest whole number. In addition to detectors listed above, chemical identity and purity are confirmed using one or more of the following: MS, DSC, solid probe MS, GC/FPD, GC/NPD, GC/TC, FTIR, melting point, refractive index, and Karl Fisher. See data pack or contact Restek for further details.
- 2B Compounds with a listed purity of less than 99% have been weight corrected to compensate for impurities.
- 2C Compounds with a listed purity of less than 99% may be salts, derivatives, or hydrates. The listed purity is actually a correction factor that was used to calculate the amount of compound necessary to achieve the desired concentration of the parent compound.
- 2D Purity of isomeric compounds is reported as the sum of the isomers. Value is rounded to the nearest whole number after summation.
- 3 Based upon gravimetric preparation with balance calibration verified using NIST traceable weights (seven mass levels).
- 4 Uncertainties determined using repeatability and reproducibility data for balances and glassware from measurement systems analysis methodology, balance and glassware tolerances, raw material purity, and, where applicable, eccentricity and linearity values from an accredited calibration laboratory.