



Technical Service Report

Conoco Inc.
Research and Development Department
Analytical Research Section
Ponca City, Oklahoma

Report No. 430-81-834-9

To E. L. Sones

From C. B. Herrin

Date April 7, 1981

Subject PURGEABLE PRIORITY POLLUTANTS IN SAMPLE VOA 4236-93-3 VCM 101-
ANALYTICAL NUMBER 16997

Conclusion

Methylene chloride was present at less than two ppb. Ethyl benzene and 1,2 dichloroethane were detected but they were below the quantification threshold. No other priority pollutants were detected.

Experimental

The sample was run on the Finnigan OWA-30 GC/MS/DS using a Tekmar LSC-2 automatic purge-and-trap apparatus. The conditions were:

Sample Concentrator

Purge gas	He @ 40 mL/min
Purge time	12 min
Desorption time	4 min
Desorption temperature	180°C
Sample size	5 mL
Internal standards	1,4 dichlorobutane and bromochloromethane

Gas Chromatograph

Carrier	He @ 20 mL/min
Column	6 ft, 1% SP 1000 on Carbopak B
Oven temperature program	30°C for 4 min initial hold then 8°/min up to 180°C then hold for 120 min.

Mass Spectrometer

Scan 40-250 amu in 4 sec
1000 scans collected.

Methanolic solutions of the internal standards were injected into a syringe containing 5 mL of sample. The spiked sample was then immediately injected into the purge cell.

Calibration was accomplished by using boiled-and-sparged Milli-Q water with the internal standards and a blend of EPA Consent Decree volatile standards prepared by Radian Corp. and purchased from Regis Chemical Co. This standard blend was run under the same conditions as the sample, and the data obtained were fed into two of the OWA system libraries. The sample was run, and the OWA system automatic quantification program which employed the two libraries in the reverse search mode was used.

VVC 000013108

Discussion of Results

A hit was obtained for methylene chloride. The spectrum was observed manually to confirm the identification. The value for methylene chloride on the quantification report is in error due to a software bug. The correct value was calculated to be 1.7 ppb. The standard blend did not contain any compounds more volatile than methylene chloride. A manual search was performed for the five gaseous priority pollutants. None was detected.

C. B. Herrin

C. B. Herrin
Research Group Supervisor
Gas Chromatography Group
Analytical Research Section

BW
Attachments
Copies to

FK EAS Lib.

VVC 000013109

FINNIGAN TARGET COMPOUND ANALYSIS
QUANTITATION REPORT FILE: GL933D

DATA: GL933D.J1
03/26/91 14:04:00
SAMPLE: VCM 101
SUBMITTED BY: ELS

ANALYST: CBH

AMOUNT=AREA(HGHT) * RESP.AMNT/(REF.AREA(HGHT)* RESP.FACT)
RESP. FACT FROM LIBRARY ENTRY

NO NAME
1 BROMOCHLOROMETHANE (INTERNAL STANDARD)

2 CHLOROMETHANE
3 DICHLORODIFLUOROMETHANE
4 BROMOMETHANE
5 VINYL CHLORIDE
6 CHLOROMETHANE
7 METHYLENE CHLORIDE
8 TRICHLOROFUOROMETHANE
9 1,1-DICHLOROETHYLENE
10 1,1-DICHLOROETHANE
11 TRANS-1,2-DICHLOROETHYLENE
12 CHLOROFORM
13 1,2-DICHLOROETHANE
14 1,1,1-TRICHLOROETHANE
15 CARBON TETRACHLORIDE
16 BROMODICHLOROMETHANE

NO	M/E	SCAN	TIME	REF	RRT	METH	AREA(HGHT)	AMOUNT	%IOT
1	128	215	14:31	1	1.000	A BB	36706	100.000 UG/L	93.67
2	NOT FOUND								
3	NOT FOUND								
4	NOT FOUND								
5	NOT FOUND								
6	NOT FOUND								
7	NOT FOUND								
8	NOT FOUND								
9	NOT FOUND								
10	NOT FOUND								
11	NOT FOUND								
12	NOT FOUND								
13	NOT FOUND								
14	NOT FOUND								
15	NOT FOUND								
16	NOT FOUND								
17	BA	164	11:04	1	0.165	A BB	3682	7.154 UG/L	6.03
18	NOT FOUND								
19	NOT FOUND								
20	NOT FOUND								
21	NOT FOUND								
22	NOT FOUND								
23	NOT FOUND								
24	NOT FOUND								
25	NOT FOUND								
26	NOT FOUND								
27	NOT FOUND								
28	NOT FOUND								
29	NOT FOUND								
30	NOT FOUND								
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89	NOT FOUND								
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92	NOT FOUND								
93	NOT FOUND								
94	NOT FOUND								
95	NOT FOUND								
96	NOT FOUND								
97	NOT FOUND								
98	NOT FOUND								
99	NOT FOUND								
100	NOT FOUND								

VVC 000013110

UNKNOWN SAMPLE QUANTITATION

OWA REVERSE SEARCH STATUS REPORT

THE INTERNAL STANDARD AREA HAS A DIFFERENCE OF: -100 PERCENT OF THE LAST STANDARDS
INTERNAL STANDARD FOUND FOR LIBRARY: LIBRARYV1

COMPOUNDS QUANTITATED BY INTERNAL STANDARD USING PARAMETERS IN LIBRARYV1

REPORT ENTRY NO.	EXPECTED SCAN	BEST SCAN	FIT	PURITY	LIBRARY ENTRY NO.	PEAKS FOUND	PEAKS QUANT	SATURATED PEAKS
1	212	215	997	657	1	5	1	0
7	161	164	996	635	7	1	1	0
COMPOUND PASSED REVERSE SEARCH BUT WAS BELOW MINIMUM AREA FOR ION QUANT								
13	256	259	779	82	13	1	0	0

NUMBER OF COMPOUNDS IDENTIFIED 3

DATA PROCESSING OF GL9330 COMPLETED ON 4/02/81 14:41:00

VVC 000013111

NIGAN TARGET COMPOUND ANALYSIS
 QUANTITATION REPORT FILE: GL933D

DATA GL933D.T1
 05/26/81 14 04:00
 SAMPLE VCM 101
 SUBMITTED BY: ELS

ANALYST: CBH

AMOUNT=AREA(HGHT) * REF. AMT. / (REF. AREA(HGHT) * RESP. FAC)
 RESP. FAC. FROM LIBRARY ENTRY

NO NAME
 1 1,1-DICHLOROBUTANE (INTERNAL STANDARD)
 2 1,2-DICHLOROPROPANE
 3 TRANS-1,3-DICHLOROPROPENE
 4 TRICHLOROETHYLENE
 5 BENZENE
 6 CIS-1,3-DICHLOROPROPENE
 7 1,1,2-TRICHLOROETHANE
 8 DIBROMOCHLOROMETHANE
 9 BROMOFORM
 10 1,1,2,2-TETRACHLOROETHYLENE
 11 1,1,2,2-TETRACHLOROETHANE
 12 TOLUENE
 13 CHLOROBENZENE
 14 ETHYLBENZENE

NO	N/E	SCAN	TIME	REF	RRT	METH	AREA(HGHT)	AMOUNT	%TOT
1	55	442	29.50	1	1.000	A BB	75267	25.000 NG/ML	*100
2									
3									
4									
5									
6									
7									
8									
9									
10									
11									
12									
13									
14									

VVC 000013112

UNKNOWN SAMPLE QUANTITATION

QWA REVERSE SEARCH STATUS REPORT

THE INTERNAL STANDARD AREA HAS A DIFFERENCE OF -69 PERCENT OF THE LAST STANDARDS
INTERNAL STANDARD FOUND FOR LIBRARY:LIBRARYV2

COMPOUNDS QUANTITATED BY INTERNAL STANDARD USING PARAMETERS IN LIBRARYV2

REPORT ENTRY NO.	EXPECTED SCAN	BEST SCAN	FIT	PURITY	LIBRARY ENTRY NO.	PEAKS FOUND	PEAKS QUANT	SATURATED PEAKS
1	435	442	986	417	1	1	1	0
COMPOUND PASSED REVERSE SEARCH BUT WAS BELOW MINIMUM AREA FOR ION QUANT								
14	634	635	968	36	14	1	0	0

NUMBER OF COMPOUNDS IDENTIFIED 2

DATA PROCESSING OF 9L9330 COMPLETED ON 4/06/81 8:25:39

VVC 000013113