STUDY TITLE

Validation of Methods for the Analysis of Worker Exposure and Reentry Matrices for Diazinon and Malathion

Study Number ARF003

DATA REQUIREMENT

Series 875
Occupational and Residential Exposure
Test Guidelines

AUTHOR

Del A. Koch
Study Director

FINAL REPORT DATE

February 23, 1999

TESTING FACILITY

ABC Laboratories, Inc.
Analytical Chemistry and Field Studies
7200 E. ABC Lane
Columbia, Missouri 65202

SPONSOR/SUBMITTER

Agricultural Reentry Task Force

Attachment 5. Validation Data for Outer Dermal Dosimeter Shirt Method ARTF-AM-008

Summary Results for Outer Shirts Dosimeters Method Validation - Diazinon
Reference Multichrom files Shirts14, Shirts15, Shirts16, Shirts17, Shirts16A and B

Sample ID	Data Set ID	Sample Description	Diazinon Fortification Level (ug/segment)	Diazinon Recovery (ug/segment)	% Recovery (1)
43767-126	Shirts14	Control Back Torso	NA	0.494	
43767-127	Shirts14	Upper Arm + nominal 5 ug each	5.00	4.71	84.3%
43767-128	Shirts14	Lower Arm + nominal 5 ug each	5.00	3.75	65.1%
43767-129	Shirts14	Front Torso + nominal 50 ug each	50.0	44.6	88.2%
43767-130	Shirts14	Back Torso + nominal 50 ug each	50.0	40.5	80.0%
43767-131	Shirts14	Upper Arm + nominal 10000 ug each	10000	7090	70.9%
43767-132	Shirts14	Lower Arm + nominal 10000 ug each	10000	7780	77.8%
43767-133	Shirts15	Control Front Torso	NA	0.648	
43767-134	Shirts15	Back Torso + nominal 5 ug each	5.00	5.56	98.2%
43767-135	Shirts15	Upper Arm + nominal 5 ug each	5.00	5.30	93.0%
43767-136	Shirts15	Lower Arm + nominal 50 ug each	50.0	50.3	99.3%
43767-137	Shirts15	Front Torso + nominal 50 ug each	50.0	45.1	88.9%
43767-138	Shirts15	Back Torso + nominal 10000 ug each	10000	9410	94.1%
43767-139	Shirts15	Upper Arm + nominal 10000 ug each	10000	8390	83.9%
43767-140	Shirts16	Control Back Torso	NA	Not Detected	
43767-141	Shirts16	Upper Arm + nominal 5 ug each	5.00	5.08	102%
43767-142	Shirts16	Lower Arm + nominal 5 ug each	5.00	4.21	84.2%
43767-143	Shirts16	Front Torso + nominal 50 ug each	50.0	42.3	84.6%
43767-144	Shirts16	Back Torso + nominal 50 ug each	50.0	47.6	95.2%
43767-145	Shirts16	Upper Arm + nominal 10000 ug each	10000	13400	Reinjected
43767-146	Shirts16	Lower Arm + nominal 10000 ug each	10000	12900	Reinjected
43767-145	Shirts17	Upper Arm + nominal 10000 ug each	10000	8790	87.9%
43767-146	Shirts17	Lower Arm + nominal 10000 ug each	10000	8320	83.2%

(1) Corrected for ug found in respective control sample.

Average % Recovery (n=18)	86.7%
Standard Deviation (n=18)	9.63%
Avg. + 2 Std. Dev.	106%
Avg. - 2 Std. Dev.	67.4%

43767-140A	Shirts16A	Control Back Torso	NA	Not Detected	
43767-141A	Shirts16A	Upper Arm + nominal 5 ug each	5.00	4.86	97.2%
43767-142A	Shirts16A	Lower Arm + nominal 5 ug each	5.00	6.32	126%
43767-143A	Shirts16A	Front Torso + nominal 50 ug each	50.0	56.0	112%
43767-144A	Shirts16A	Back Torso + nominal 50 ug each	50.0	56.3	113%
43767-145A	Shirts16A	Upper Arm + nominal 10000 ug each	10000	7190	71.9%
43767-146A	Shirts16A	Lower Arm + nominal 10000 ug each	10000	9300	93.0%
43767-140B	Shirts16B	Control Back Torso	NA	Not Detected	
43767-141B	Shirts16B	Upper Arm + nominal 5 ug each	5.00	5.33	107%
43767-142B	Shirts16B	Lower Arm + nominal 5 ug each	5.00	5.75	115%
43767-143B	Shirts16B	Front Torso + nominal 50 ug each	50.0	55.1	110%
43767-144B	Shirts16B	Back Torso + nominal 50 ug each	50.0	52.0	104%
43767-145B	Shirts16B	Upper Arm + nominal 10000 ug each	10000	9830	98.3%
43767-146B	Shirts16B	Lower Arm + nominal 10000 ug each	10000	9390	93.9%

Average % Recovery (n=12)	103%
Standard Deviation (n=12)	13.9%

Prepared by: [illegible] 24 Sep 97

Checked by: Barbara J. Bryant 24 Sep 97

Summary Results for Outer Shirts Dosimeters Method Validation - Malathion
Reference Multichrom files Shirts14, Shirts15, Shirts16, Shirts17, Shirts16A and B

Sample ID	Data Set ID	Sample Description	Malathion Fortification Level (ug/segment)	Malathion Recovery (ug/segment)	% Recovery (1)
43767-126	Shirts14	Control Back Torso	NA	0.0464	
43767-127	Shirts14	Upper Arm + nominal 5 ug each	5.00	4.61	91.3%
43767-128	Shirts14	Lower Arm + nominal 5 ug each	5.00	4.31	85.3%
43767-129	Shirts14	Front Torso + nominal 50 ug each	50.0	47.4	94.7%
43767-130	Shirts14	Back Torso + nominal 50 ug each	50.0	39.8	79.5%
43767-131	Shirts14	Upper Arm + nominal 10000 ug each	10000	7840	78.4%
43767-132	Shirts14	Lower Arm + nominal 10000 ug each	10000	7500	75.0%
43767-133	Shirts15	Control Front Torso	NA	Not Detected	
43767-134	Shirts15	Back Torso + nominal 5 ug each	5.00	5.67	113%
43767-135	Shirts15	Upper Arm + nominal 5 ug each	5.00	5.21	104%
43767-136	Shirts15	Lower Arm + nominal 50 ug each	50.0	51.1	102%
43767-137	Shirts15	Front Torso + nominal 50 ug each	50.0	45.3	90.6%
43767-138	Shirts15	Back Torso + nominal 10000 ug each	10000	9380	93.8%
43767-139	Shirts15	Upper Arm + nominal 10000 ug each	10000	8830	88.3%
43767-140	Shirts16	Control Back Torso	NA	Not Detected	
43767-141	Shirts16	Upper Arm + nominal 5 ug each	5.00	5.15	103%
43767-142	Shirts16	Lower Arm + nominal 5 ug each	5.00	5.03	101%
43767-143	Shirts16	Front Torso + nominal 50 ug each	50.0	42.8	85.6%
43767-144	Shirts16	Back Torso + nominal 50 ug each	50.0	48.6	97.2%
43767-145	Shirts16	Upper Arm + nominal 10000 ug each	10000	14000	Reinjected
43767-146	Shirts16	Lower Arm + nominal 10000 ug each	10000	13100	Reinjected
43767-145	Shirts17	Upper Arm + nominal 10000 ug each	10000	9560	95.6%
43767-146	Shirts17	Lower Arm + nominal 10000 ug each	10000	8470	84.7%

(1) Corrected for ug found in respective control sample.

Average % Recovery (n=18)	92.4%
Standard Deviation (n=18)	10.1%
Avg. + 2 Std. Dev.	113%
Avg. - 2 Std. Dev.	72.2%

43767-140A	Shirts16A	Control Back Torso	NA	Not Detected	
43767-141A	Shirts16A	Upper Arm + nominal 5 ug each	5.00	4.74	94.8%
43767-142A	Shirts16A	Lower Arm + nominal 5 ug each	5.00	5.96	119%
43767-143A	Shirts16A	Front Torso + nominal 50 ug each	50.0	54.3	109%
43767-144A	Shirts16A	Back Torso + nominal 50 ug each	50.0	59.2	118%
43767-145A	Shirts16A	Upper Arm + nominal 10000 ug each	10000	9870	98.7%
43767-146A	Shirts16A	Lower Arm + nominal 10000 ug each	10000	9540	95.4%
43767-140B	Shirts16B	Control Back Torso	NA	Not Detected	
43767-141B	Shirts16B	Upper Arm + nominal 5 ug each	5.00	5.58	112%
43767-142B	Shirts16B	Lower Arm + nominal 5 ug each	5.00	5.22	104%
43767-143B	Shirts16B	Front Torso + nominal 50 ug each	50.0	57.9	116%
43767-144B	Shirts16B	Back Torso + nominal 50 ug each	50.0	54.4	109%
43767-145B	Shirts16B	Upper Arm + nominal 10000 ug each	10000	9910	99.1%
43767-146B	Shirts16B	Lower Arm + nominal 10000 ug each	10000	9740	97.4%

Average % Recovery (n=12)	106%
Standard Deviation (n=12)	8.96%

Prepared by: [illegible] 24 Sept 97

Checked by: Barbara J. Bryant 24 Sep 97

SAMPLE TRACKING FORM

Customer Name: ARTF	Study Director: Loren C. Schrier	Test Material: Diazinon and Malathion	Matrix: Outer Dosimeters (Shirts)
ARTF Protocol: ARF003	ABC Study Number: 43767	Outer Cotton (Shirts) Dosimeters Repeat Method Validation Set 1	

Extraction	Partitioning	C18 Cleanup	Vial	GC/FPD Analysis	Chromatography review:
CYG 8-28-97 ① JW 29Aug97	CYG 8-28-97 ① JW 29Aug97	CYG 8-28-97	CYG 8-28-97	CYG 8-28-97	30Aug97
					Spreadsheet entry by: 3 Sept 97

Fortified by: JW 29Aug97

Witnessed by: CYG 8-29-97

ABC Lab Number	Sample Description	Extraction Volume	Aliquot Taken	AOT Volume, Aliquot for C18 Cleanup	DCM Elution Volume	Final Volume and Dilutions	
43767-126	Control Back Torso	2500 mL	25.0 mL	15.0 mL, then 5.00 mL	16 mL	2.00 mL	
43767-127	Control Upper Arm + nominal 5.00 ug Each	2500 mL	25.0 mL	15.0 mL, then 5.00 mL	16 mL	2.00 mL	Fortify with 0.500 mL of 10.0 ug/mL mixed fortification solution (2Mix-F2)
43767-128	Control Lower Arm + nominal 5.00 ug Each	2500 mL	25.0 mL	15.0 mL, then 5.00 mL	16 mL	2.00 mL	Fortify with 0.500 mL of 10.0 ug/mL mixed fortification solution (2Mix-F2)
43767-129	Control Front Torso + nominal 50.0 ug Each	2500 mL	25.0 mL	15.0 mL, then 5.00 mL	16 mL	4.00 mL	Fortify with 1.00 mL of 50.0 ug/mL mixed fortification solution (2Mix-E2)
43767-130	Control Back Torso + nominal 50.0 ug Each	2500 mL	25.0 mL	15.0 mL, then 5.00 mL	16 mL	4.00 mL	Fortify with 1.00 mL of 50.0 ug/mL mixed fortification solution (2Mix-E2)
43767-131	Control Upper Arm + nominal 10000 ug Each	2500 mL	25.0 mL	15.0 mL, then 5.00 mL	16 mL	25.0 mL, then dilute 0.50 mL to 15.5 mL	Fortify with 2.0 mL of 5.00 mg/mL mixed fortification solution (2Mix-A2)
43767-132	Control Lower Arm + nominal 10000 ug Each	2500 mL	25.0 mL	15.0 mL, then 5.00 mL	16 mL	25.0 mL, then dilute 0.50 mL to 15.5 mL	Fortify with 2.0 mL of 5.00 mg/mL mixed fortification solution (2Mix-A2)

Remarks:

Acetone: BP707 CYG 8-28-97

Hexane: BN936 CYG 8-28-97

Ethyl Ether: BN234 CYG 8-28-97

DCM: BN794 CYG 8-28-97

Methanol: B0820 CYG 8-28-97

C18 SPE: Varian Bond Elut 1 g/6 mL, Lot 071340

Water: Labconco DI

Date Entry ZL 14Oct97

Checked by BSB 24Sep97

Approved by 14Oct97

① Entered by JW 2 Sep 97

[43767] 29 SHIRTS14 Page 1
Reported on 30-AUG-1997 at 10:20
Modified on 29-AUG-1997 at 12:44

List Run Sequence File

ANALYST NAME..... LOREN C. SCHRIER
43767 SHIRTS METHOD VALIDATION

ANALYSIS INFORMATION

Analysis name..... SHIRTS14
Method name..... SHIRTS14
Calibration name..... SHIRTS14
Calibration sequence..... Average Standard
User parameter 1 name..... FINAL VOLUME (ML)
User parameter 2 name..... FACTOR 1
User parameter 3 name..... FACTOR 2

SAMPLE SUMMARY

SAMPLE NUMBER	LIMS ID	SAMPLE NAME
1	----------	EQUILIBRATION
2	----------	EQUILIBRATION
3	----------	SOLVENT BLANK
4	----------	GCMIX-G2 100 NG/ML STD
5	----------	GCMIX-G3 60.0 NG/ML STD
6	----------	43767-126
7	----------	43767-127
8	----------	43767-128
9	----------	GCMIX-G4 40.0 NG/ML STD
10	----------	43767-129
11	----------	43767-130
12	----------	GCMIX-G5 20.0 NG/ML STD
13	----------	43767-131
14	----------	43767-132
15	----------	GCMIX-G6 10.0 NG/ML STD
16	----------	GCMIX-H7 4.00 NG/ML STD

[43767] 29 SHIRTS14 Page 2
Reported on 30-AUG-1997 at 10:20
Modified on 29-AUG-1997 at 12:44

SAMPLE INFORMATION

SAMPLE NUMBER	TYPE	CALIB LEVEL	UPDATE RT	UPDATE RF	AMOUNT	NUM INJ	BOT NUM
1	Sa	--	-	-	1.00000	1	1
2	Sa	--	-	-	1.00000	1	2
3	Sa	--	-	-	1.00000	1	3
4	St	01	N	I	1.00000	1	4
5	St	02	N	I	1.00000	1	5
6	Sa	--	-	-	1.00000	1	6
7	Sa	--	-	-	1.00000	1	7
8	Sa	--	-	-	1.00000	1	8
9	St	03	N	I	1.00000	1	9
10	Sa	--	-	-	1.00000	1	10
11	Sa	--	-	-	1.00000	1	11
12	St	04	N	I	1.00000	1	12
13	Sa	--	-	-	1.00000	1	13
14	Sa	--	-	-	1.00000	1	14
15	St	05	N	I	1.00000	1	15
16	St	06	N	I	1.00000	1	16

USER PARAMETER VALUES

SAMPLE	FINAL VOLUME (ML)	FACTOR 1	FACTOR 2
1	1.00000	1.00000	1.00000
2	1.00000	1.00000	1.00000
3	2.00000	37500.00000	125000.00000
4	1.00000	1.00000	1.00000
5	1.00000	1.00000	1.00000
6	2.00000	37500.00000	125000.00000
7	2.00000	37500.00000	125000.00000
8	2.00000	37500.00000	125000.00000
9	1.00000	1.00000	1.00000
10	4.00000	37500.00000	125000.00000
11	4.00000	37500.00000	125000.00000
12	1.00000	1.00000	1.00000
13	25.00000	581250.00000	62500.00000
14	25.00000	581250.00000	62500.00000
15	1.00000	1.00000	1.00000
16	1.00000	1.00000	1.00000

[43767] 29 SHIRTS14 Page 3
Reported on 30-AUG-1997 at 10:20
Modified on 29-AUG-1997 at 12:44

INTERNAL/DILUTION STANDARDS

SAMPLE NUMBER	ISTD1 AMOUNT	ISTD2 AMOUNT	ISTD3 AMOUNT	DIL1 AMOUNT	DIL2 AMOUNT
1	1.00000	1.00000	1.00000	1.00000	1.00000
2	1.00000	1.00000	1.00000	1.00000	1.00000
3	1.00000	1.00000	1.00000	1.00000	1.00000
4	1.00000	1.00000	1.00000	1.00000	1.00000
5	1.00000	1.00000	1.00000	1.00000	1.00000
6	1.00000	1.00000	1.00000	1.00000	1.00000
7	1.00000	1.00000	1.00000	1.00000	1.00000
8	1.00000	1.00000	1.00000	1.00000	1.00000
9	1.00000	1.00000	1.00000	1.00000	1.00000
10	1.00000	1.00000	1.00000	1.00000	1.00000
11	1.00000	1.00000	1.00000	1.00000	1.00000
12	1.00000	1.00000	1.00000	1.00000	1.00000
13	1.00000	1.00000	1.00000	1.00000	1.00000
14	1.00000	1.00000	1.00000	1.00000	1.00000
15	1.00000	1.00000	1.00000	1.00000	1.00000
16	1.00000	1.00000	1.00000	1.00000	1.00000

PROCESSING ORDER

SAMPLE NUMBER	TYPE
4	Standard
5	Standard
9	Standard
12	Standard
15	Standard
16	Standard
1	Sample
2	Sample
3	Sample
6	Sample
7	Sample
8	Sample
10	Sample
11	Sample
13	Sample
14	Sample

Gas Chromatographic Instrument Parameters Form

ABC Laboratory Study Number: 43767
Customer Identification: ARTF

Instrument: HP 5890 Series II Material ID# 1652-0120
Autoinjector: HP 7673B Material ID# 1625-802A

Column: HP-5MS, 30 M X 0.25 mm, 0.25 μm film thickness
Serial#: 57105214

Detector Type: FPD/P

Electrometer: Range 4

Temperatures:
- Injector (°C): 230
- Detector (°C): 230
- Column:
  - Initial Temp.(°C): 95
  - Initial Time: 1.0 min.
  - Program Rate 1: 30 °C/min to 230 °C, hold 4 min
  - Program Rate 2: 40 °C/min to 290 °C, hold 4 min

Carrier Gas Flow Rate:	He	1.6 mL/min
Septum Purge:	He	2.0 mL/min
Make Up Gas:	N_2	21 mL/min
Air Flow Rate:		98 mL/min.
Hydrogen Flow Rate:		69 mL/min.
Purge Valve:	Off at 0 min, on at 0.75 min	

Injection Volume: 2 μL

Run Sequence File: Shrts 14

Quantitation Standards: ~~GM~~ GCMIX-G2, G3, G4, G5, G6, H7
DE YG 8-28-97

Prepared By: CY Guo Date: 8-29-97

Checked By: Barbara J. Bryant Date: 23 Sep 97

MCDO [43767] 29 SHIRTS14

ABC Laboratories, Inc.
Sample Information Report ver 3.3

Report Date: 30 AUG 97 at 10:30:22
Page 1

Sample Name	No.	Type	Level	User Parameter 1 FINAL VOLUME (ML)	User Parameter 2 FACTOR 1	User Parameter 3 FACTOR 2
EQUILIBRATION	1	SA		1.00000	1.00000	1.00000
EQUILIBRATION	2	SA		1.00000	1.00000	1.00000
SOLVENT BLANK	3	SA		2.00000	37500.00000	125000.00000
GCMIX-G2 100 NG/ML STD	4	ST	01	1.00000	1.00000	1.00000
GCMIX-G3 60.0 NG/ML STD	5	ST	02	1.00000	1.00000	1.00000
43767-126	6	SA		2.00000	37500.00000	125000.00000
43767-127	7	SA		2.00000	37500.00000	125000.00000
43767-128	8	SA		2.00000	37500.00000	125000.00000
GCMIX-G4 40.0 NG/ML STD	9	ST	03	1.00000	1.00000	1.00000
43767-129	10	SA		4.00000	37500.00000	125000.00000
43767-130	11	SA		4.00000	37500.00000	125000.00000
GCMIX-G5 20.0 NG/ML STD	12	ST	04	1.00000	1.00000	1.00000
43767-131	13	SA		25.00000	581250.00000	62500.00000
43767-132	14	SA		25.00000	581250.00000	62500.00000
GCMIX-G6 10.0 NG/ML STD	15	ST	05	1.00000	1.00000	1.00000
GCMIX-H7 4.00 NG/ML STD	16	ST	06	1.00000	1.00000	1.00000

MCDO [43767] 29 SHIRTS14

ABC Laboratories, Inc.
Results Information Report ver 3.3
Component Name: DIAZINON

Report Date: 30 AUG 97
Time: 10:30:22
Page: 1

Sample Name	SMP #	INJ #	RT(mins)	Height	ng/mL or ug	CAL. RANG	Peak Type	Bad INJ
EQUILIBRATION	1	1	5.96	10391	10.49576		OB	---
EQUILIBRATION	2	1	5.96	37082	38.39655		OB	---
SOLVENT BLANK	3	1	0.00	0	0.00000	UNDR	OB	---
GCMIX-G2 100 NG/ML STD	4	1	5.95	96697	100.71465		OB	---
GCMIX-G3 60.0 NG/ML STD	5	1	5.95	56626	58.82684		OBF	---
43767-126	6	1	5.96	1138	0.49388	UNDR	OB	---
43767-127	7	1	5.96	7854	4.70634		OB	---
43767-128	8	1	5.95	6329	3.74951		OB	---
GCMIX-G4 40.0 NG/ML STD	9	1	5.95	38317	39.68772		OBF	---
43767-129	10	1	5.96	35900	44.59367		OB	---
43767-130	11	1	5.94	32636	40.49902		OB	---
GCMIX-G5 20.0 NG/ML STD	12	1	5.96	20219	20.76945		OB	---
43767-131	13	1	5.94	29539	7094.01123		OB	---
43767-132	14	1	5.95	32376	7783.54004		O	---
GCMIX-G6 10.0 NG/ML STD	15	1	5.96	10135	10.22839		OB	---
GCMIX-H7 4.00 NG/ML STD	16	1	5.96	4026	3.84252		O	---

MCDO [43767] 29 SHIRTS14

ABC Laboratories, Inc.
Results Information Report ver 3.3
Component Name: MALATHION

Report Date: 30 AUG 97
Time: 10:30:22
Page: 1

Sample Name	SMP #	INJ #	RT(mins)	Height	ng/mL or ug	CAL. RANG	Peak Type	Bad INJ
EQUILIBRATION	1	1	6.82	6175	8.98147		OB	---
EQUILIBRATION	2	1	6.82	25479	40.07639		OB	---
SOLVENT BLANK	3	1	0.00	0	0.00000	UNDR	O	---
GCMIX-G2 100 NG/ML STD	4	1	6.81	63300	101.00009		OB	---
GCMIX-G3 60.0 NG/ML STD	5	1	6.81	37056	58.72625		OB	---
43767-126	6	1	6.82	647	0.04642	UNDR	OF	---
43767-127	7	1	6.82	5365	4.60603		OBF	---
43767-128	8	1	6.80	5059	4.30987		OF	---
GCMIX-G4 40.0 NG/ML STD	9	1	6.81	25233	39.68084		OB	---
43767-129	10	1	6.82	25139	47.43551		OB	---
43767-130	11	1	6.80	21206	39.83340		OB	---
GCMIX-G5 20.0 NG/ML STD	12	1	6.82	12866	19.76027		OB	---
43767-131	13	1	6.80	21538	7841.96973		OB	---
43767-132	14	1	6.81	20622	7498.74268		OB	---
GCMIX-G6 10.0 NG/ML STD	15	1	6.82	7737	11.49798		OB	---
GCMIX-H7 4.00 NG/ML STD	16	1	6.82	2830	3.59319		OB	---

Acquisition and Peak Processing Parameters Report Print Date and Time : 30 AUG 97 10:41:05
Version 2 Page : 1
MCDO [43767] 29 SHIRTS14 Based on Sample Number : 1 Injection Number : 1

ACQUISITION PARAMETERS
Data Collection :
Length of Run..... 14.99 mins
Post Injection Delay..... 0.00 mins
Sampling Rate..... 15.00 Hz
Baseline Offset :
Adjust Baseline..... Yes
Baseline Offset..... 10.00 %

PEAK PROCESSING PARAMETERS
Auto Process Parameters :
Peak Threshold..... 0.50
Baseline Test..... 4
Peak Trend..... 4
Separation Parameters :
Shoulder Sensitivity..... 0.10
Rider Sensitivity..... 0.05
Rejection Parameters :
Minimum Peak Width..... 0.00 secs
Minimum Peak Height..... 500.00 uV
Minimum Peak Area..... 1000.00 uVs
Ignore Flat Top Peak..... No
User Imposed Action Control :
Forced Baseline..... No
Suppress Integration..... Yes
Tangent Skimming..... No
Shoulder Detection..... No
Data Bunching..... No
Negative Detection..... No
Integration Modes :
Retention Time Integration..... No
Square Root Area and Height..... No

PROCESSING ACTIONS

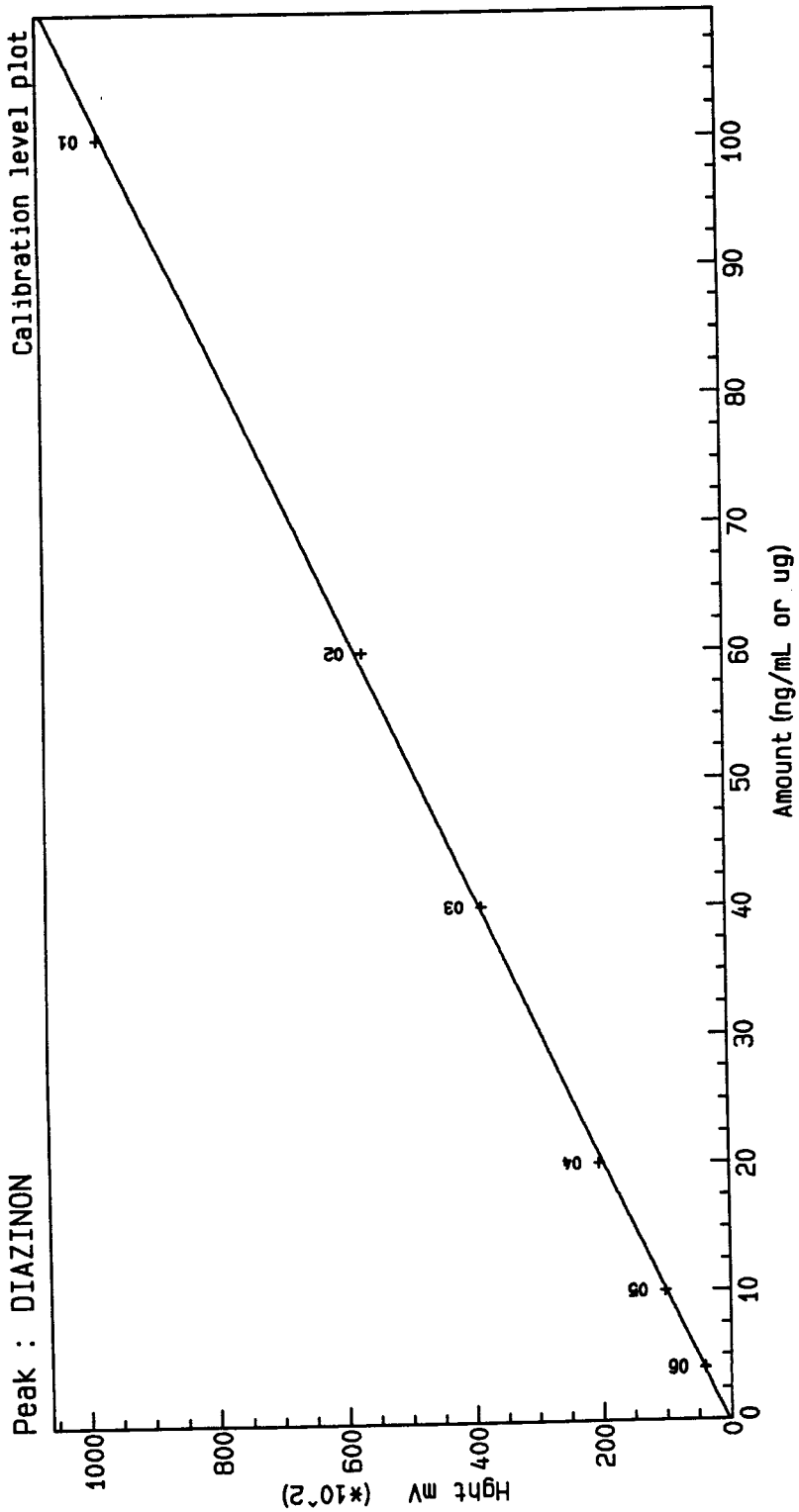
Time (mins)	Force Baseline	Integrate Suppress	Tangent Skim	Bunch Size	Shoulder Detect	Negative Detect
0.00	--	SI	_	0	--	--
5.50	--	ES	_	0	--	--
8.00	--	SI	_	0	--	--

Calibration last modified on 30-Aug-1997 at 10:23
Calibration Sequence..... AVERAGE

These parameters apply to all injections of set SHIRTS14 with no exceptions

ABC Laboratories, Inc. Multichrom ver 1.8-2

Calibration Name : 29 SHIRTS14.
43767 METHOD VALIDATION
Peak : DIAZINON



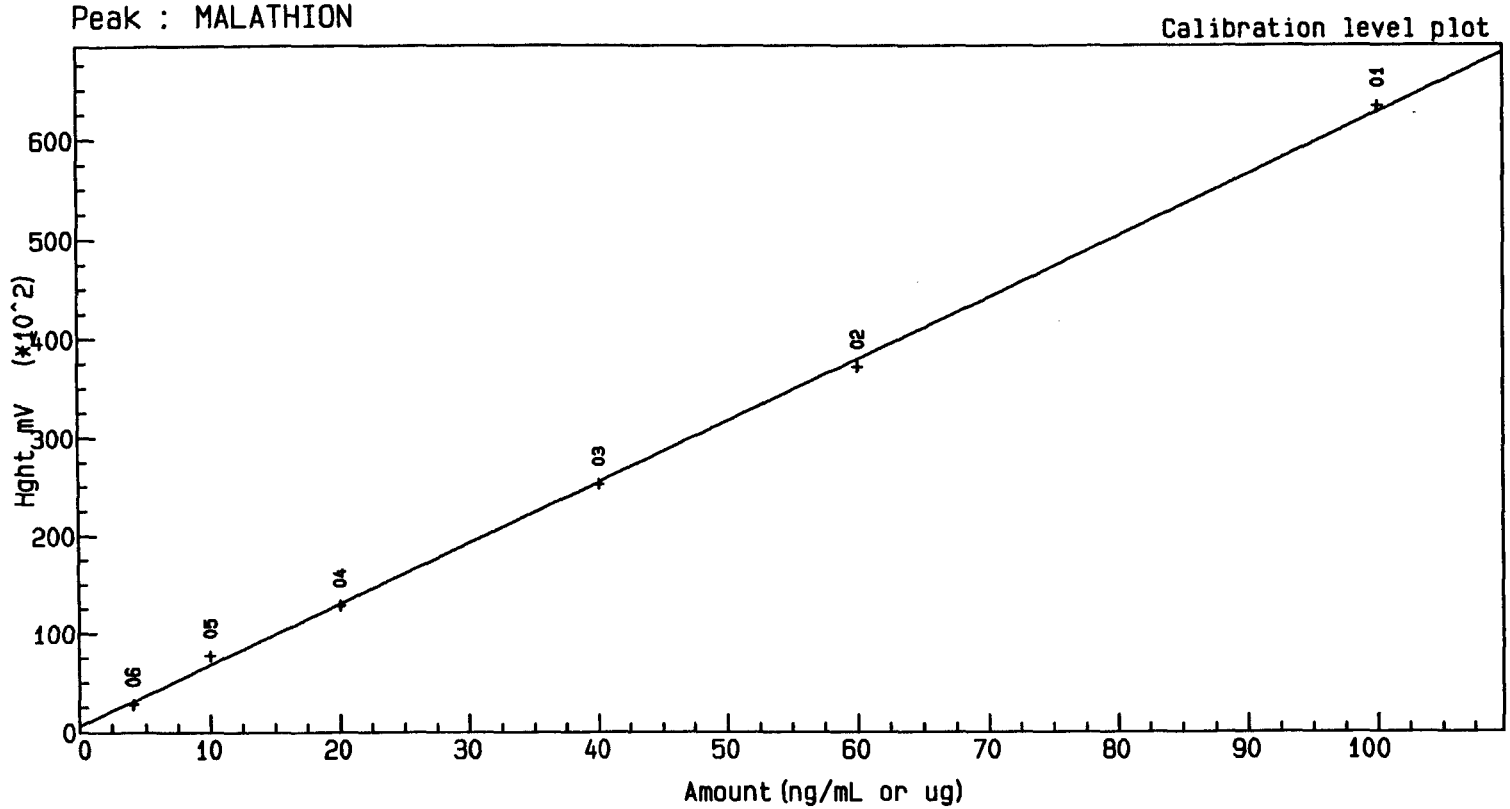
Constant : 3.50363E+2
1st degree : 9.56630E+2

Curve fit : Linear
Correlation coefficient : 0.99980
Standard error : 7.79164E+2

Reported on 30-AUG-1997 at 10:41

ABC Laboratories, Inc. Multichrom ver 1.8-2

Calibration Name : 29 SHIRTS14.
43767 METHOD VALIDATION
Peak : MALATHION



Constant : 5.99251E+2
1st degree : 6.20799E+2

Curve fit : Linear
Correlation coefficient : 0.99961
Standard error : 7.07235E+2

Reported on 30-AUG-1997 at 10:41

ABC Laboratories, Inc.

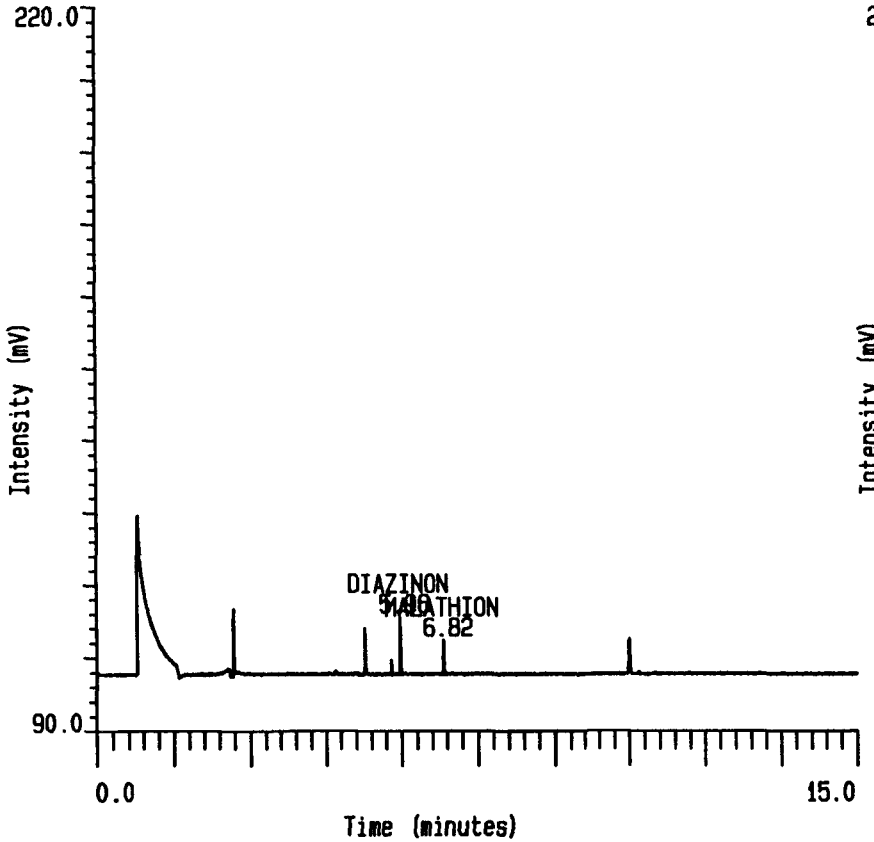
MCPP ver 2.3

43767 SHIRTS METHOD VALIDATION

Date of Report: 30 AUG 97 at 10:42:26

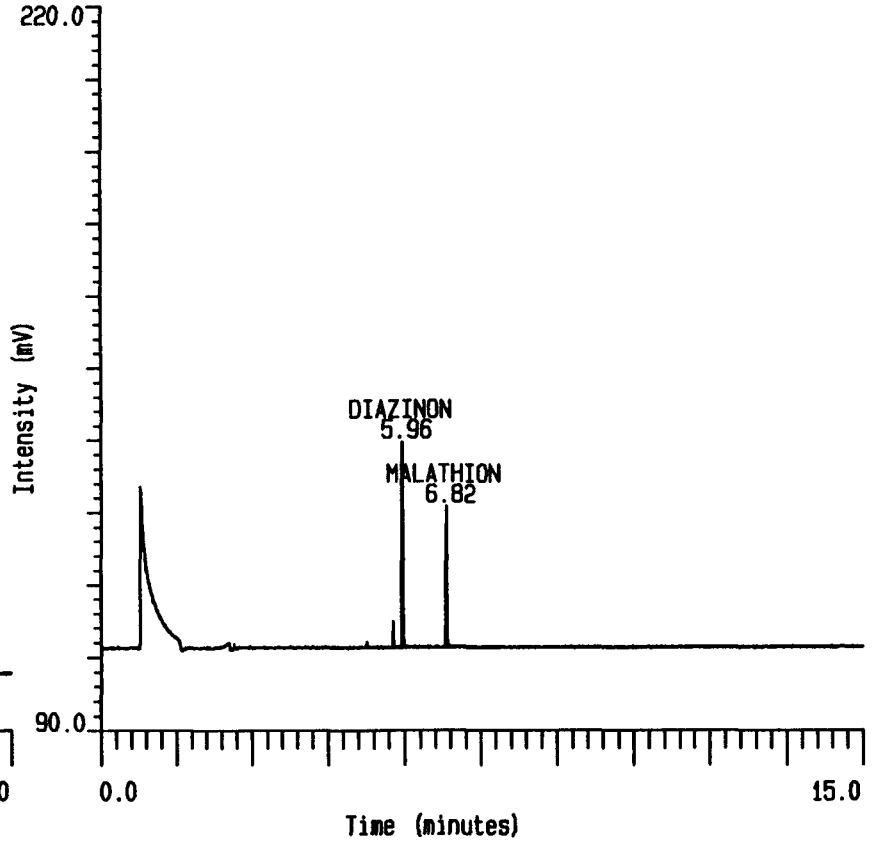
MCDO [43767] 29 SHIRTS14,1,1
EQUILIBRATION
Acquired on 30-Aug-1997 at 00:01

Peak Name	RT (mins)	Height	ng/mL or ug
DIAZINON	5.96	10391	10.49576
MALATHION	6.82	6175	8.98147



MCDO [43767] 29 SHIRTS14,2,1
EQUILIBRATION
Acquired on 30-Aug-1997 at 00:21

Peak Name	RT (mins)	Height	ng/mL or ug
DIAZINON	5.96	37082	38.39655
MALATHION	6.82	25479	40.07639



ABC Laboratories, Inc.

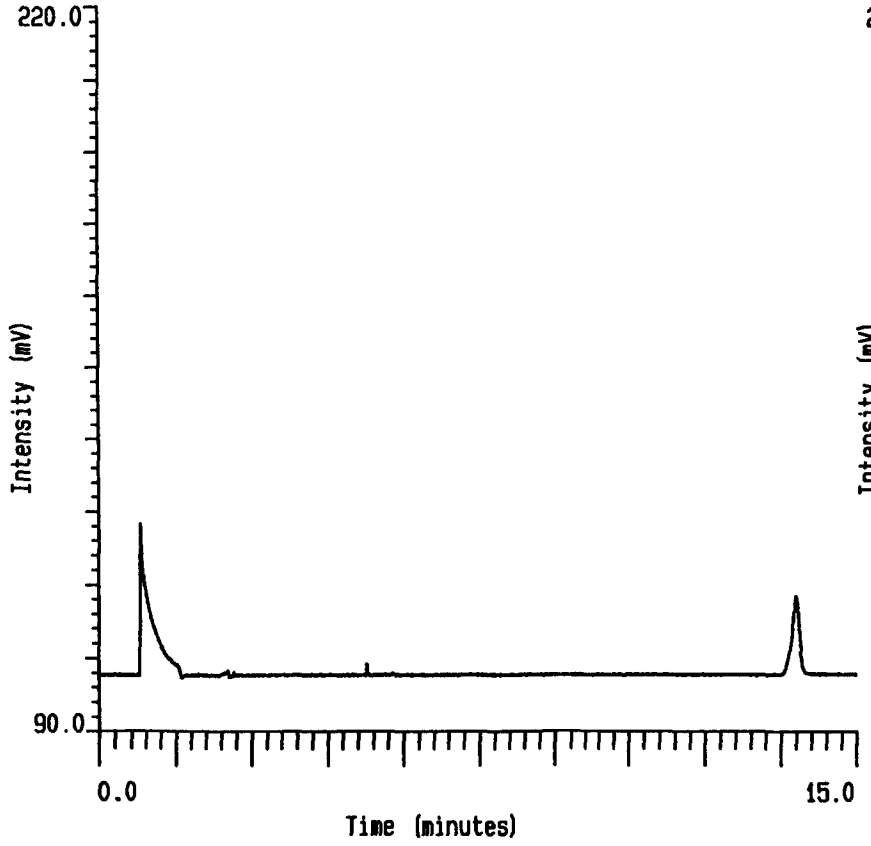
MCPP ver 2.3

43767 SHIRTS METHOD VALIDATION

Date of Report: 30 AUG 97 at 10:42:26

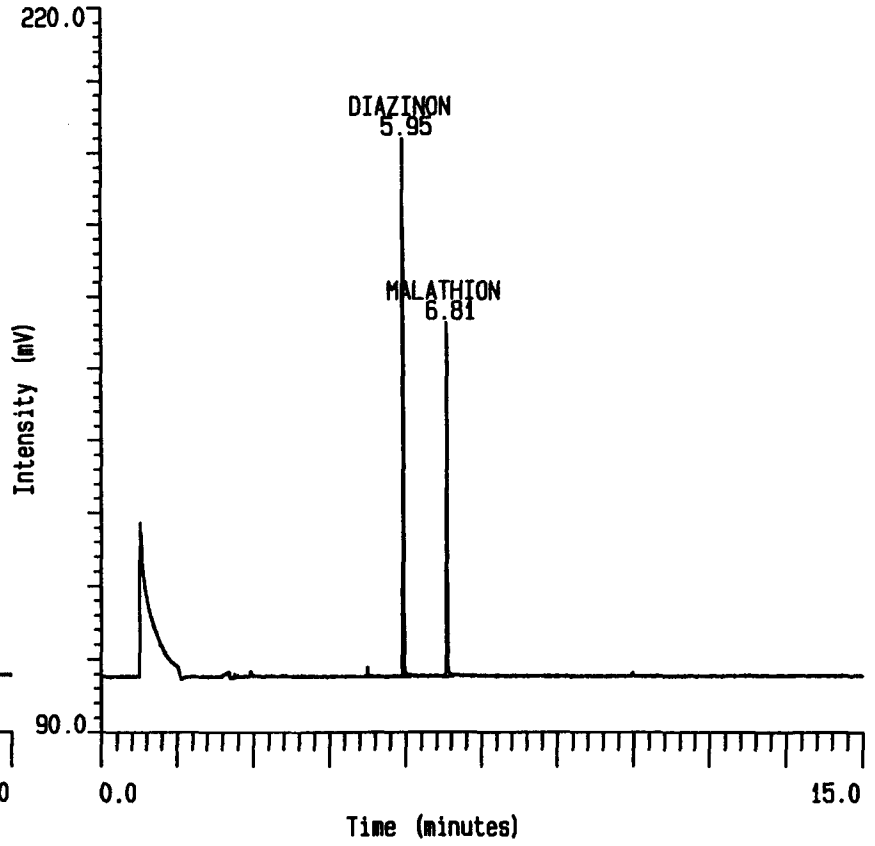
MCDO [43767] 29 SHIRTS14,3,1
SOLVENT BLANK
Acquired on 30-Aug-1997 at 00:41

Peak Name	RT (mins)	Height	ng/mL or ug
DIAZINON	0.00	0	0
MALATHION	0.00	0	0



MCDO [43767] 29 SHIRTS14,4,1
GCMIX-G2 100 NG/ML STD
Acquired on 30-Aug-1997 at 01:02

Peak Name	RT (mins)	Height	ng/mL or ug
DIAZINON	5.95	96697	100.71465
MALATHION	6.81	63300	101.00009



ABC Laboratories, Inc.

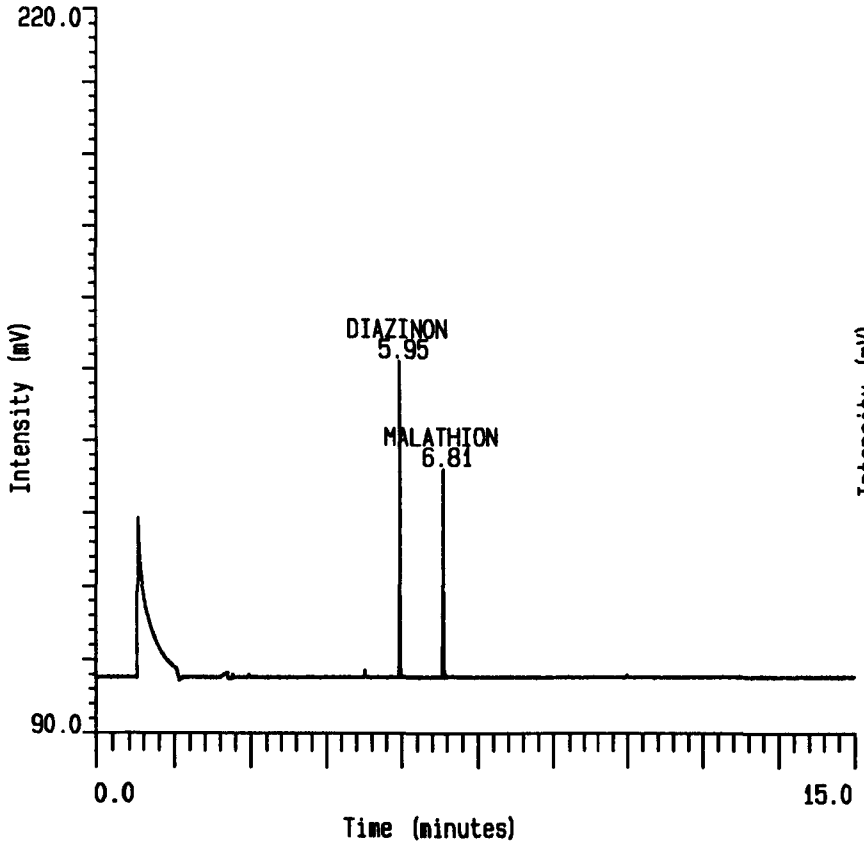
MCPP ver 2.3

43767 SHIRTS METHOD VALIDATION

Date of Report: 30 AUG 97 at 10:42:26

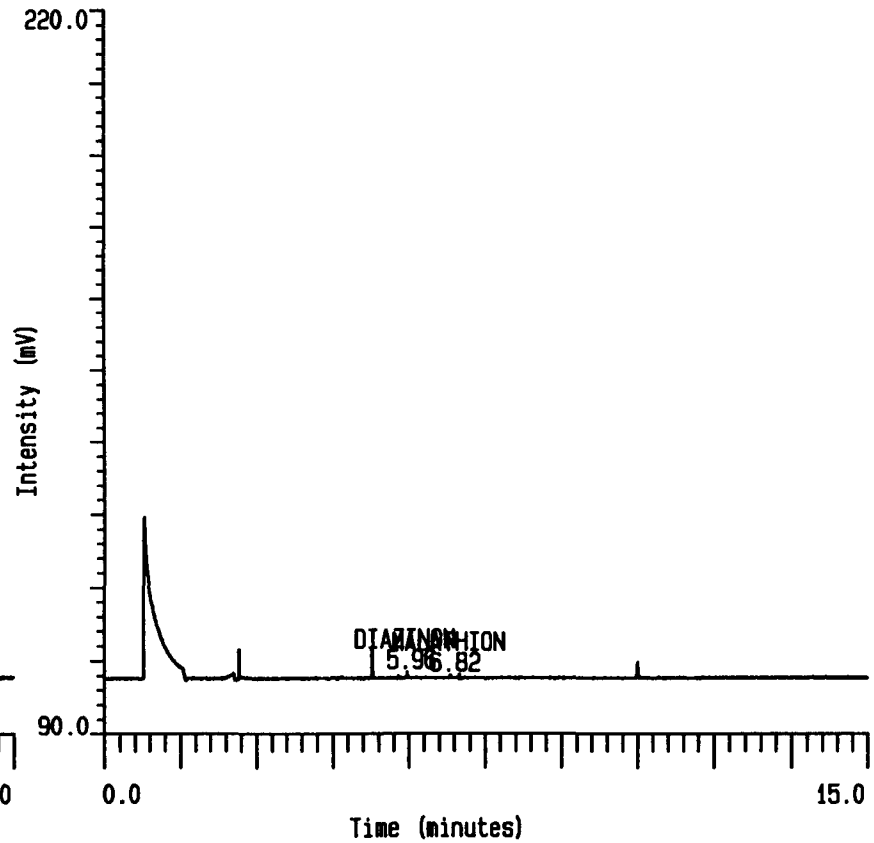
MCDO [43767] 29 SHIRTS14,5,1
GCMIX-G3 60.0 NG/ML STD
Acquired on 30-Aug-1997 at 01:22

Peak Name	RT (mins)	Height	ng/mL or ug
DIAZINON	5.95	56626	58.82684
MALATHION	6.81	37056	58.72625



MCDO [43767] 29 SHIRTS14,6,1
43767-126
Acquired on 30-Aug-1997 at 01:42

Peak Name	RT (mins)	Height	ng/mL or ug
DIAZINON	5.96	1138	0.49388
MALATHION	6.82	647	0.04642



ABC Laboratories, Inc.

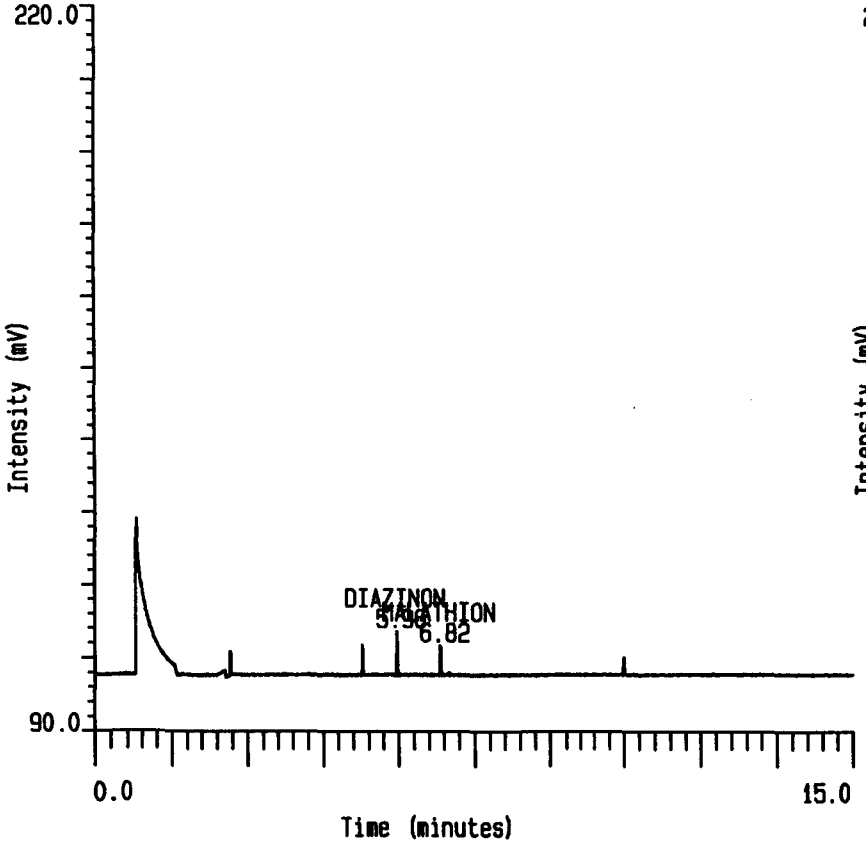
MCPP ver 2.3

43767 SHIRTS METHOD VALIDATION

Date of Report: 30 AUG 97 at 10:42:26

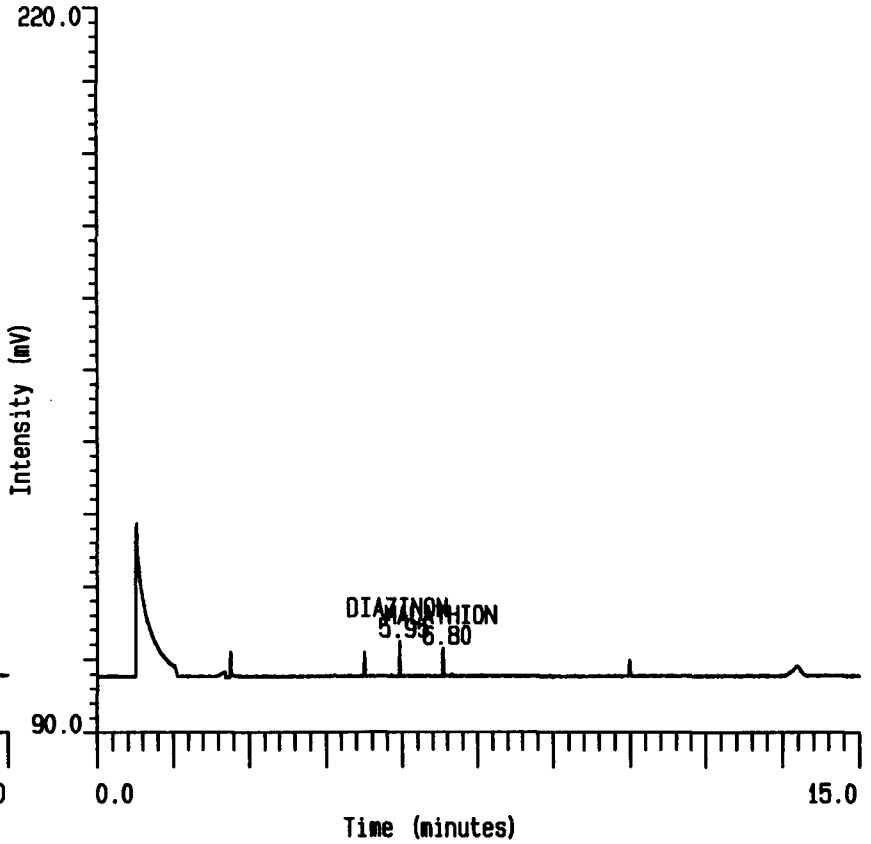
MCDO [43767] 29 SHIRTS14,7,1
43767-127
Acquired on 30-Aug-1997 at 02:02

Peak Name	RT (mins)	Height	ng/mL or ug
DIAZINON	5.96	7854	4.70634
MALATHION	6.82	5365	4.60603



MCDO [43767] 29 SHIRTS14,8,1
43767-128
Acquired on 30-Aug-1997 at 02:23

Peak Name	RT (mins)	Height	ng/mL or ug
DIAZINON	5.95	6329	3.74951
MALATHION	6.80	5059	4.30987



ABC Laboratories, Inc.

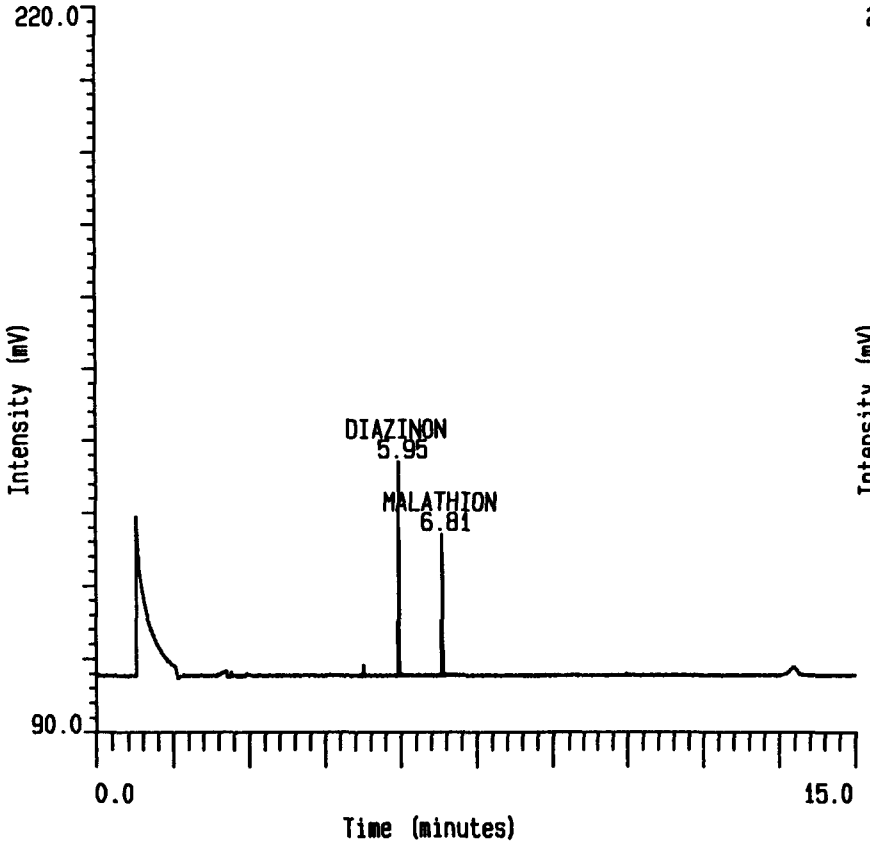
MCPP ver 2.3

43767 SHIRTS METHOD VALIDATION

Date of Report: 30 AUG 97 at 10:42:26

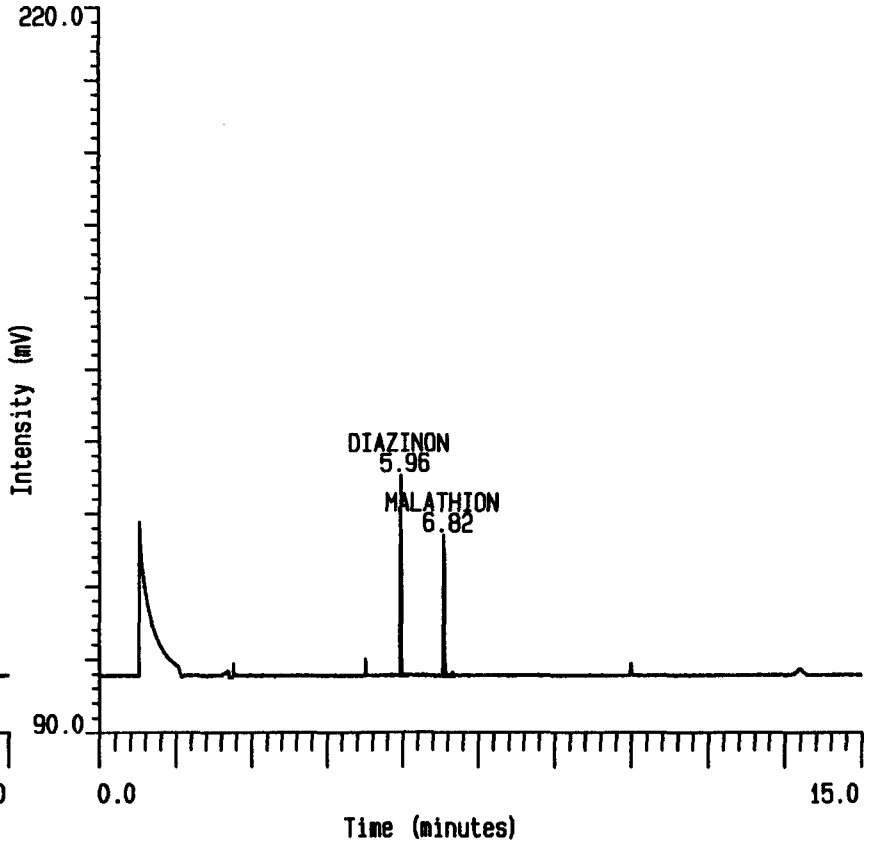
MCDO [43767] 29 SHIRTS14, 9, 1
GCMIX-G4 40.0 NG/ML STD
Acquired on 30-Aug-1997 at 02:43

Peak Name	RT (mins)	Height	ng/mL or ug
DIAZINON	5.95	38317	39.68772
MALATHION	6.81	25233	39.68084



MCDO [43767] 29 SHIRTS14, 10, 1
43767-129
Acquired on 30-Aug-1997 at 03:03

Peak Name	RT (mins)	Height	ng/mL or ug
DIAZINON	5.96	35900	44.59367
MALATHION	6.82	25139	47.43551



ABC Laboratories, Inc.

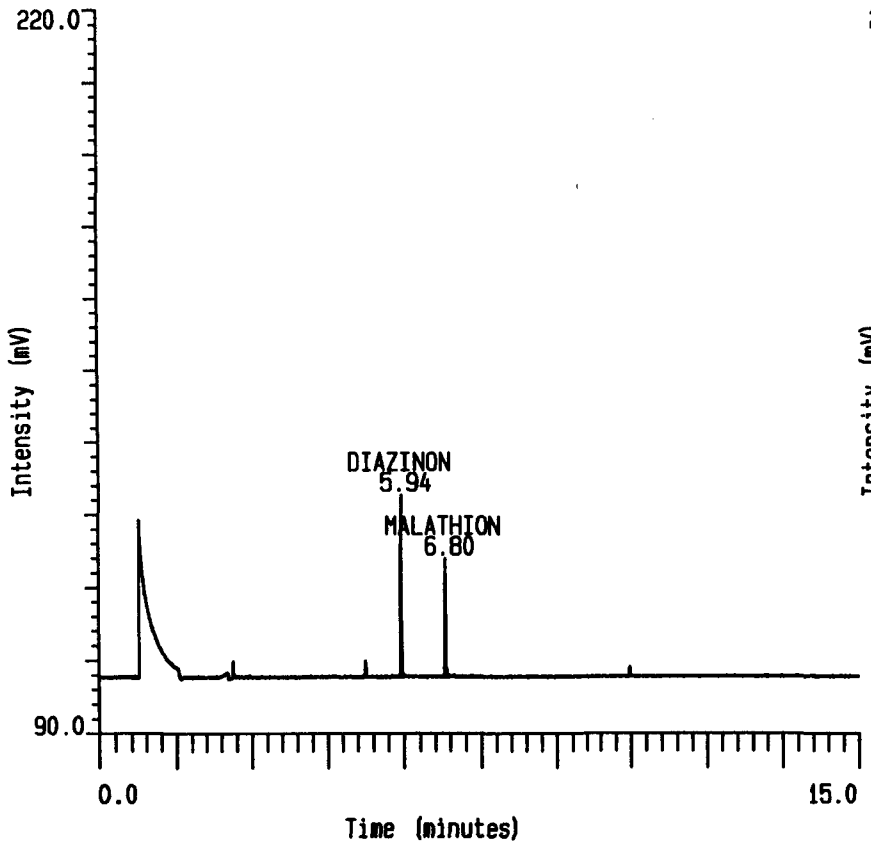
MCPP ver 2.3

43767 SHIRTS METHOD VALIDATION

Date of Report: 30 AUG 97 at 10:42:26

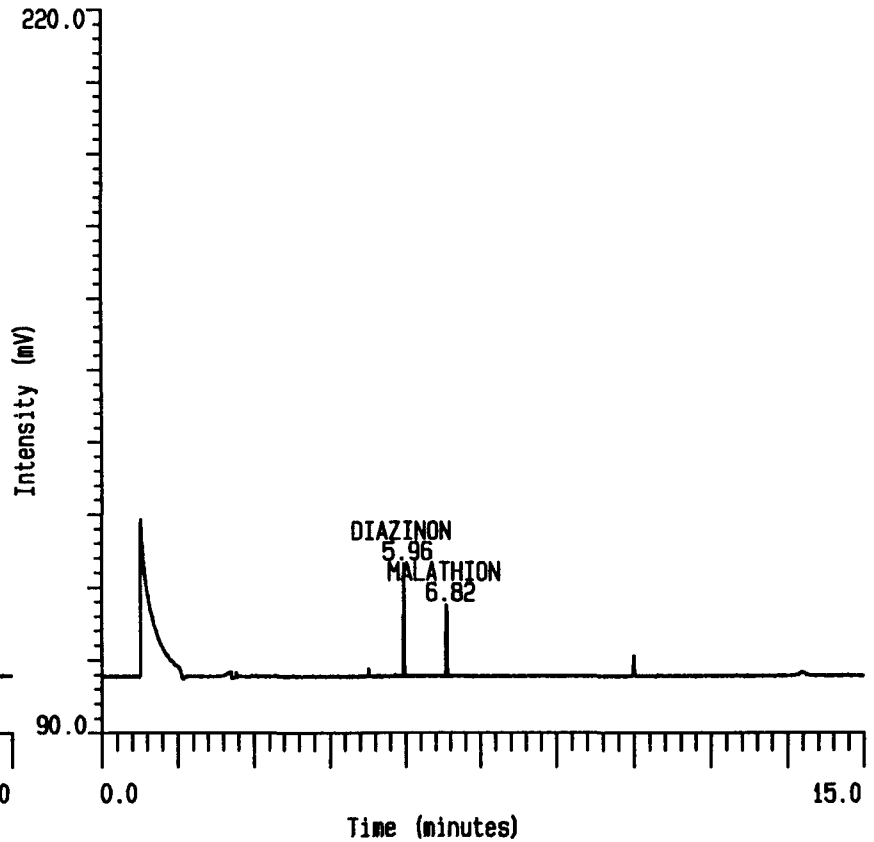
MCDO [43767] 29 SHIRTS14, 11, 1
43767-130
Acquired on 30-Aug-1997 at 03:23

Peak Name	RT (mins)	Height	ng/mL or ug
DIAZINON	5.94	32636	40.49902
MALATHION	6.80	21206	39.83340



MCDO [43767] 29 SHIRTS14, 12, 1
GCMIX-G5 20.0 NG/ML STD
Acquired on 30-Aug-1997 at 03:44

Peak Name	RT (mins)	Height	ng/mL or ug
DIAZINON	5.96	20219	20.76945
MALATHION	6.82	12866	19.76027



ABC Laboratories, Inc.

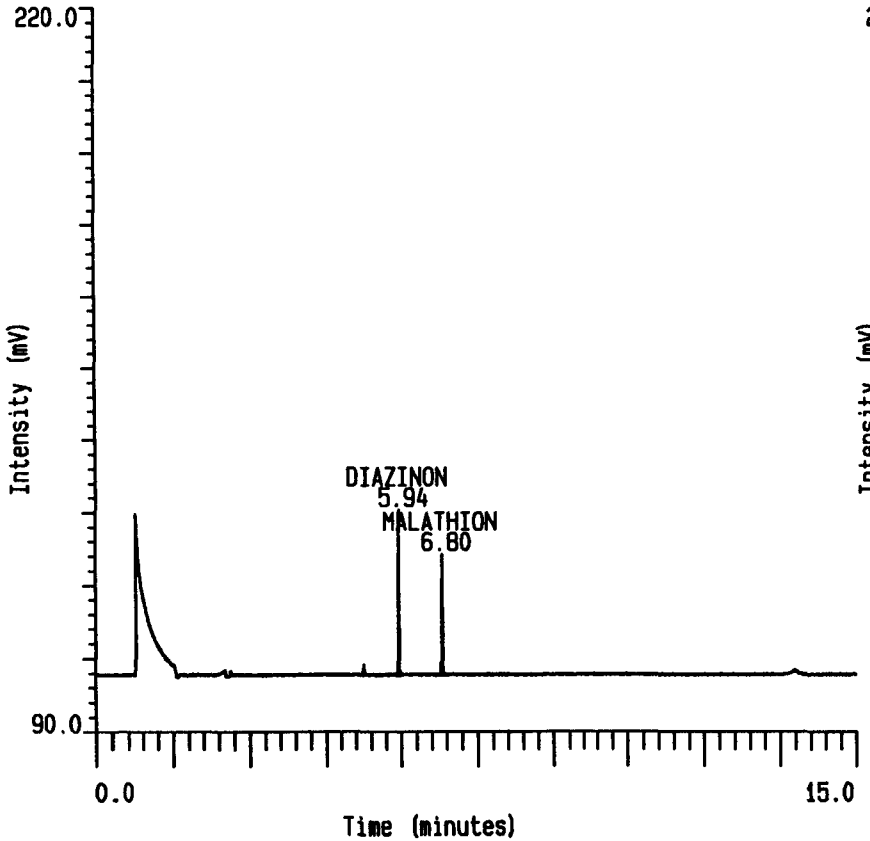
MCPP ver 2.3

43767 SHIRTS METHOD VALIDATION

Date of Report: 30 AUG 97 at 10:42:26

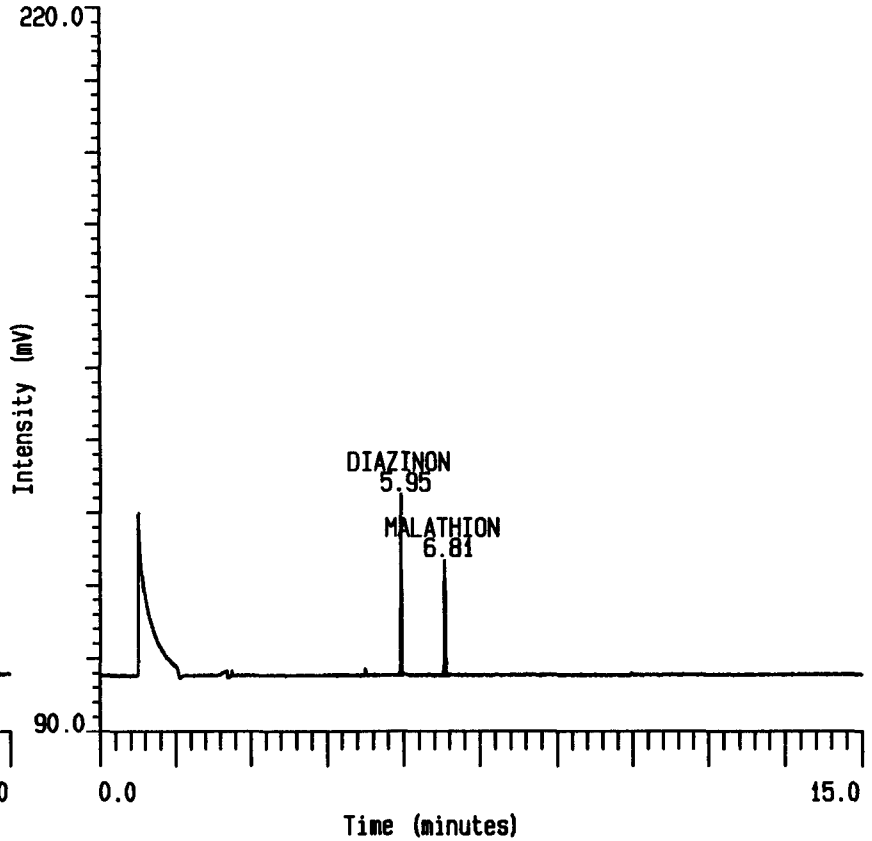
MCDO [43767] 29 SHIRTS14, 13, 1
43767-131
Acquired on 30-Aug-1997 at 04:04

Peak Name	RT (mins)	Height	ng/mL or ug
DIAZINON	5.94	29539	7094.01123
MALATHION	6.80	21538	7841.96973



MCDO [43767] 29 SHIRTS14, 14, 1
43767-132
Acquired on 30-Aug-1997 at 04:24

Peak Name	RT (mins)	Height	ng/mL or ug
DIAZINON	5.95	32376	7783.54004
MALATHION	6.81	20622	7498.74268



ABC Laboratories, Inc.

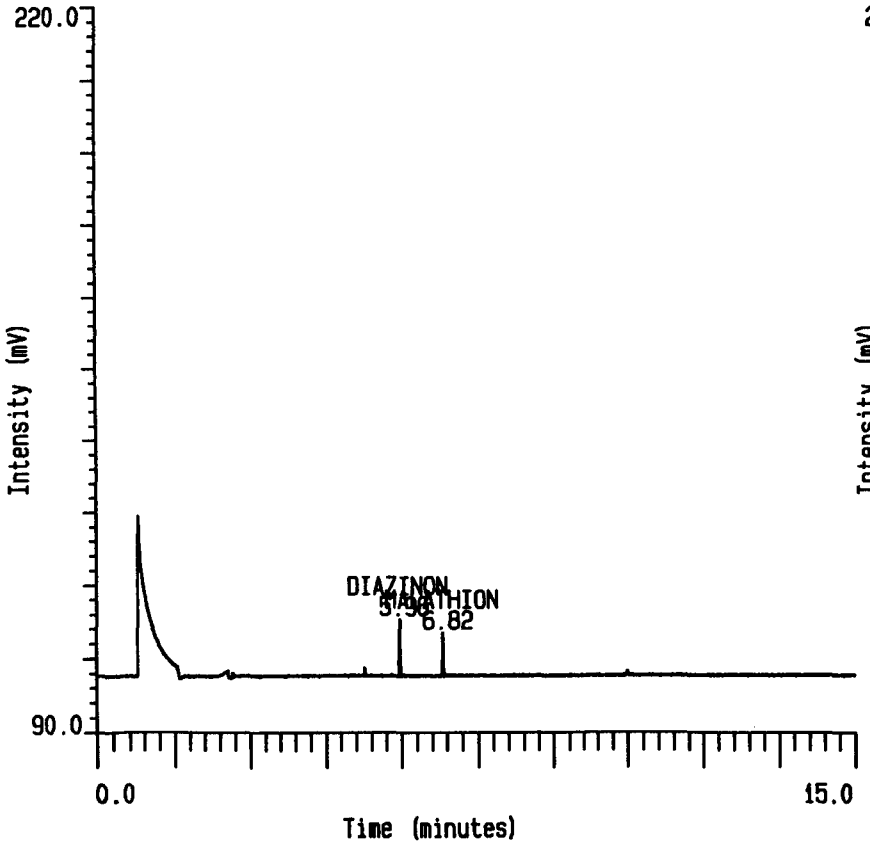
MCPP ver 2.3

43767 SHIRTS METHOD VALIDATION

Date of Report: 30 AUG 97 at 10:42:26

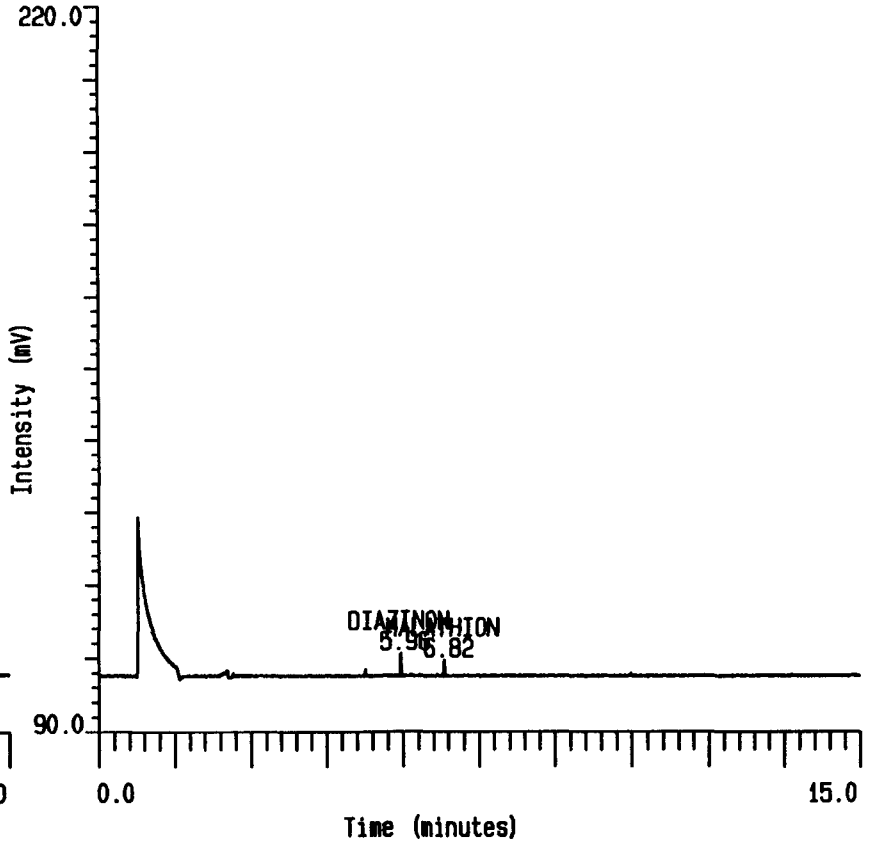
MCDO [43767] 29 SHIRTS14, 15, 1
GCMIX-G6 10.0 NG/ML STD
Acquired on 30-Aug-1997 at 04:45

Peak Name	RT (mins)	Height	ng/mL or ug
DIAZINON	5.96	10135	10.22839
MALATHION	6.82	7737	11.49798



MCDO [43767] 29 SHIRTS14, 16, 1
GCMIX-H7 4.00 NG/ML STD
Acquired on 30-Aug-1997 at 05:05

Peak Name	RT (mins)	Height	ng/mL or ug
DIAZINON	5.96	4026	3.84252
MALATHION	6.82	2830	3.59319



[43767] 29 SHIRTS14 Page 1
Reported on 16-SEP-1997 at 14:56
Modified on 30-AUG-1997 at 10:23

List Calibration File

CALIBRATION HEADER INFORMATION

Calibration Title : 43767 METHOD VALIDATION
General :
Calibration type..... External standard
Units..... ng/mL or ug
Calibration base..... Height
Reference Peak Identification :
Reference window..... 5.0 %
Minimum window..... 0.50 mins
Peak threshold..... 0.0 %
Uncalibrated Peaks Response Factor :
Response factor source..... User set response factor
Response factor..... 0.0000
Additional Information :
Source library..... None
Initialise on 1st standard..... No
Variation tolerance..... 100.00 %
Calibrant Peak Identification :
Calibrant window..... 0.15 mins
Calibrant threshold..... 0.0 %
Response Factor Calibration Curve :
Curve fit..... Linear
Force through zero..... No
X transformation..... None
Y transformation..... None
Weighting..... 1 / Y
Retention Value Calibration Curve :
Curve fit..... Linear
Force through zero..... No
X transformation..... None
Y transformation..... None
Weighting..... None
Timed Calibration Curve :
Curve fit..... Linear
Force through zero..... No
X transformation..... None
Y transformation..... None
Weighting..... None
No group information entered.

[43767] 29 SHIRTS14 Page 2
Reported on 16-SEP-1997 at 14:56
Modified on 30-AUG-1997 at 10:23

Peak name : DIAZINON
Expected retention time : 5.96 mins (RT range : 5.89 - 6.03 mins)

Peak window mode..... Global
Group name identifier..... ----
Peak identification mode..... Largest
Must peak..... No
Reference peak..... No
Dilution peak..... No
Retention standard..... No
Response factor mode..... Internal Levels
Purity..... 100.0000

Calibration level	Standard amount	Response factor	Calibration count
06	4.0000	1006.5585	1
05	10.0000	1013.5143	1
04	20.0000	1010.9518	1
03	40.0000	957.9204	1
02	60.0000	943.7643	1
01	100.0000	966.9698	1

Peak name : MALATHION
Expected retention time : 6.82 mins (RT range : 6.75 - 6.89 mins)

Peak window mode..... Global
Group name identifier..... ----
Peak identification mode..... Largest
Must peak..... No
Reference peak..... No
Dilution peak..... No
Retention standard..... No
Response factor mode..... Internal Levels
Purity..... 100.0000

Calibration level	Standard amount	Response factor	Calibration count
06	4.0000	707.4755	1
05	10.0000	773.7189	1
04	20.0000	643.3204	1
03	40.0000	630.8270	1
02	60.0000	617.6075	1
01	100.0000	633.0002	1

SAMPLE TRACKING FORM

Customer Name: ARTF	Study Director: Loren C. Schrier	Test Material: Diazinon and Malathion	Matrix: Outer Dosimeters (Shirts)
ARTF Protocol: ARF003	ABC Study Number: 43767	Outer Cotton (Shirts) Dosimeters Repeat Method Validation Set 2	

Extraction	Partitioning	C18 Cleanup	Vial	GC/FPD Analysis	Chromatography review:
JW 2Sep97 CYG 9-2-97	JW 2Sep97	CYG 9-2-97	CYG 9-2-97	CYG 9-2-97	3 Sep 97
					Spreadsheet entry by: 3 Sep 97

Fortified by: JW 2Sep97

Witnessed by: CYG 9-2-97

ABC Lab Number	Sample Description	Extraction Volume	Aliquot Taken	AOT Volume, Aliquot for C18 Cleanup	DCM Elution Volume	Final Volume and Dilutions	
43767-133	Control Front Torso	2500 mL	25.0 mL	15.0 mL, then 5.00 mL	16 mL	2.00 mL	
43767-134	Control Back Torso + nominal 5.00 ug Each	2500 mL	25.0 mL	15.0 mL, then 5.00 mL	16 mL	2.00 mL	Fortify with 0.500 mL of 10.0 ug/mL mixed fortification solution (2Mix-F2)
43767-135	Control Upper Arm + nominal 5.00 ug Each	2500 mL	25.0 mL	15.0 mL, then 5.00 mL	16 mL	2.00 mL	Fortify with 0.500 mL of 10.0 ug/mL mixed fortification solution (2Mix-F2)
43767-136	Control Lower Arm + nominal 50.0 ug Each	2500 mL	25.0 mL	15.0 mL, then 5.00 mL	16 mL	4.00 mL	Fortify with 1.00 mL of 50.0 ug/mL mixed fortification solution (2Mix-E2)
43767-137	Control Front Torso + nominal 50.0 ug Each	2500 mL	25.0 mL	15.0 mL, then 5.00 mL	16 mL	4.00 mL	Fortify with 1.00 mL of 50.0 ug/mL mixed fortification solution (2Mix-E2)
43767-138	Control Back Torso + nominal 10000 ug Each	2500 mL	25.0 mL	15.0 mL, then 5.00 mL	16 mL	25.0 mL, then dilute 0.50 mL to 15.5 mL	Fortify with 2.0 mL of 5.00 mg/mL mixed fortification solution (2Mix-A2)
43767-139	Control Upper Arm + nominal 10000 ug Each	2500 mL	25.0 mL	15.0 mL, then 5.00 mL	16 mL	25.0 mL, then dilute 0.50 mL to 15.5 mL	Fortify with 2.0 mL of 5.00 mg/mL mixed fortification solution (2Mix-A2)

Remarks:

Acetone: BP707 CYG 9-2-97

Hexane: BN936 CYG 9-2-97

Ethyl Ether: BN234 CYG 9-2-97

DCM: BN794 CYG 9-2-97

Methanol: B0820 CYG 9-2-97

C18 SPE: Varian Bond Elut 1 g/6 mL, Lot 071340

Water: Labconco DI

Checked by BSB 24 Sep 97

Approved by [illegible] 14 Oct 97

[43767] 29 SHIRTS15 Page 1
Reported on 3-SEP-1997 at 07:10
Modified on 2-SEP-1997 at 12:37

List Run Sequence File

ANALYST NAME..... LOREN C. SCHRIER
43767 SHIRTS METHOD VALIDATION

ANALYSIS INFORMATION

Analysis name..... SHIRTS15
Method name..... SHIRTS15
Calibration name..... SHIRTS15
Calibration sequence..... Average Standard
User parameter 1 name..... FINAL VOLUME (ML)
User parameter 2 name..... FACTOR 1
User parameter 3 name..... FACTOR 2

SAMPLE SUMMARY

SAMPLE NUMBER	LIMS ID	SAMPLE NAME
1	----------	EQUILIBRATION
2	----------	EQUILIBRATION
3	----------	SOLVENT BLANK
4	----------	GCMIX-G2 100 NG/ML STD
5	----------	GCMIX-G3 60.0 NG/ML STD
6	----------	43767-133
7	----------	43767-134
8	----------	43767-135
9	----------	GCMIX-G4 40.0 NG/ML STD
10	----------	43767-136
11	----------	43767-137
12	----------	GCMIX-G5 20.0 NG/ML STD
13	----------	43767-138
14	----------	43767-139
15	----------	GCMIX-G6 10.0 NG/ML STD
16	----------	GCMIX-H7 4.00 NG/ML STD

[43767] 29 SHIRTS15 Page 2
Reported on 3-SEP-1997 at 07:10
Modified on 2-SEP-1997 at 12:37

SAMPLE INFORMATION

SAMPLE NUMBER	TYPE	CALIB LEVEL	UPDATE RT	UPDATE RF	AMOUNT	NUM INJ	BOT NUM
1	Sa	--	-	-	1.00000	1	1
2	Sa	--	-	-	1.00000	1	2
3	Sa	--	-	-	1.00000	1	3
4	St	01	N	I	1.00000	1	4
5	St	02	N	I	1.00000	1	5
6	Sa	--	-	-	1.00000	1	6
7	Sa	--	-	-	1.00000	1	7
8	Sa	--	-	-	1.00000	1	8
9	St	03	N	I	1.00000	1	9
10	Sa	--	-	-	1.00000	1	10
11	Sa	--	-	-	1.00000	1	11
12	St	04	N	I	1.00000	1	12
13	Sa	--	-	-	1.00000	1	13
14	Sa	--	-	-	1.00000	1	14
15	St	05	N	I	1.00000	1	15
16	St	06	N	I	1.00000	1	16

USER PARAMETER VALUES

SAMPLE	FINAL VOLUME (ML)	FACTOR 1	FACTOR 2
1	1.00000	1.00000	1.00000
2	1.00000	1.00000	1.00000
3	2.00000	37500.00000	125000.00000
4	1.00000	1.00000	1.00000
5	1.00000	1.00000	1.00000
6	2.00000	37500.00000	125000.00000
7	2.00000	37500.00000	125000.00000
8	2.00000	37500.00000	125000.00000
9	1.00000	1.00000	1.00000
10	4.00000	37500.00000	125000.00000
11	4.00000	37500.00000	125000.00000
12	1.00000	1.00000	1.00000
13	25.00000	581250.00000	62500.00000
14	25.00000	581250.00000	62500.00000
15	1.00000	1.00000	1.00000
16	1.00000	1.00000	1.00000

[43767] 29 SHIRTS15 Page 3
Reported on 3-SEP-1997 at 07:10
Modified on 2-SEP-1997 at 12:37

INTERNAL/DILUTION STANDARDS

SAMPLE NUMBER	ISTD1 AMOUNT	ISTD2 AMOUNT	ISTD3 AMOUNT	DIL1 AMOUNT	DIL2 AMOUNT
1	1.00000	1.00000	1.00000	1.00000	1.00000
2	1.00000	1.00000	1.00000	1.00000	1.00000
3	1.00000	1.00000	1.00000	1.00000	1.00000
4	1.00000	1.00000	1.00000	1.00000	1.00000
5	1.00000	1.00000	1.00000	1.00000	1.00000
6	1.00000	1.00000	1.00000	1.00000	1.00000
7	1.00000	1.00000	1.00000	1.00000	1.00000
8	1.00000	1.00000	1.00000	1.00000	1.00000
9	1.00000	1.00000	1.00000	1.00000	1.00000
10	1.00000	1.00000	1.00000	1.00000	1.00000
11	1.00000	1.00000	1.00000	1.00000	1.00000
12	1.00000	1.00000	1.00000	1.00000	1.00000
13	1.00000	1.00000	1.00000	1.00000	1.00000
14	1.00000	1.00000	1.00000	1.00000	1.00000
15	1.00000	1.00000	1.00000	1.00000	1.00000
16	1.00000	1.00000	1.00000	1.00000	1.00000

PROCESSING ORDER

SAMPLE NUMBER	TYPE
4	Standard
5	Standard
9	Standard
12	Standard
15	Standard
16	Standard
1	Sample
2	Sample
3	Sample
6	Sample
7	Sample
8	Sample
10	Sample
11	Sample
13	Sample
14	Sample

Gas Chromatographic Instrument Parameters Form

ABC Laboratory Study Number: 43767
Customer Identification: ARTF

Instrument: HP 5890 Series II Material ID# 1652-0120
Autoinjector: HP 7673B Material ID# 1625-802A

Column: HP-5MS, 30 M X 0.25 mm, 0.25 μm film thickness
Serial#: 57105214

Detector Type: FPD/P

Electrometer: Range 4

Temperatures:
- Injector (°C): 230
- Detector (°C): 230
- Column:
  - Initial Temp.(°C): 95
  - Initial Time: 1.0 min.
  - Program Rate 1: 30 °C/min to 230 °C, hold 4 min
  - Program Rate 2: 40 °C/min to 290 °C, hold 4 min

Carrier Gas Flow Rate:	He	1.6 mL/min
Septum Purge:	He	2.0 mL/min
Make Up Gas:	N_2	21 mL/min
Air Flow Rate:		98 mL/min.
Hydrogen Flow Rate:		69 mL/min.
Purge Valve:	Off at 0 min, on at 0.75 min	

Injection Volume: 2 μL

Run Sequence File: Shirts 15

Quantitation Standards: GCMIX-G2, G3, G4, G5, G6, H7

Prepared By: CY Guo Date: 9-2-97

Checked By: Barbara J Bryant Date: 23 Sep 97

MCDO [43767] 29 SHIRTS15

ABC Laboratories, Inc.
Sample Information Report ver 3.3

Report Date: 03 SEP 97 at 07:16:03
Page 1

Sample Name	No.	Type	Level	User Parameter 1 FINAL VOLUME (ML)	User Parameter 2 FACTOR 1	User Parameter 3 FACTOR 2
EQUILIBRATION	1	SA		1.00000	1.00000	1.00000
EQUILIBRATION	2	SA		1.00000	1.00000	1.00000
SOLVENT BLANK	3	SA		2.00000	37500.00000	125000.00000
GCMIX-G2 100 NG/ML STD	4	ST	01	1.00000	1.00000	1.00000
GCMIX-G3 60.0 NG/ML STD	5	ST	02	1.00000	1.00000	1.00000
43767-133	6	SA		2.00000	37500.00000	125000.00000
43767-134	7	SA		2.00000	37500.00000	125000.00000
43767-135	8	SA		2.00000	37500.00000	125000.00000
GCMIX-G4 40.0 NG/ML STD	9	ST	03	1.00000	1.00000	1.00000
43767-136	10	SA		4.00000	37500.00000	125000.00000
43767-137	11	SA		4.00000	37500.00000	125000.00000
GCMIX-G5 20.0 NG/ML STD	12	ST	04	1.00000	1.00000	1.00000
43767-138	13	SA		25.00000	581250.00000	62500.00000
43767-139	14	SA		25.00000	581250.00000	62500.00000
GCMIX-G6 10.0 NG/ML STD	15	ST	05	1.00000	1.00000	1.00000
GCMIX-H7 4.00 NG/ML STD	16	ST	06	1.00000	1.00000	1.00000

MCDO [43767] 29 SHIRTS15

ABC Laboratories, Inc.
Results Information Report ver 3.3
Component Name: DIAZINON

Report Date: 03 SEP 97
Time: 07:16:03
Page: 1

Sample Name	SMP #	INJ #	RT(mins)	Height	ng/mL or ug	CAL. RANG	Peak Type	Bad INJ
EQUILIBRATION	1	1	5.96	28511	29.87063		OB	---
EQUILIBRATION	2	1	5.95	36110	37.82870		OB	---
SOLVENT BLANK	3	1	0.00	0	0.00000	UNDR		---
GCMIX-G2 100 NG/ML STD	4	1	5.95	97805	102.43884		OBF	---
GCMIX-G3 60.0 NG/ML STD	5	1	5.96	56566	59.25105		OB	---
43767-133	6	1	5.96	1020	0.64818	UNDR	OB	---
43767-134	7	1	5.95	8840	5.56184		OB	---
43767-135	8	1	5.97	8420	5.29786		O	---
GCMIX-G4 40.0 NG/ML STD	9	1	5.96	37419	39.19984		O	---
43767-136	10	1	5.97	40031	50.32181		OBF	---
43767-137	11	1	5.96	35889	45.11662		O	---
GCMIX-G5 20.0 NG/ML STD	12	1	5.96	18523	19.41078		OB	---
43767-138	13	1	5.96	38644	9412.12793		OBF	---
43767-139	14	1	5.95	34440	8388.57031		OB	---
GCMIX-G6 10.0 NG/ML STD	15	1	5.96	9002	9.43944		OB	---
GCMIX-H7 4.00 NG/ML STD	16	1	5.96	4227	4.43860		O	---

MCDO [43767] 29 SHIRTS15

ABC Laboratories, Inc.
Results Information Report ver 3.3
Component Name: MALATHION

Report Date: 03 SEP 97
Time: 07:16:03
Page: 1

Sample Name	SMP #	INJ #	RT(mins)	Height	ng/mL or ug	CAL. RANG	Peak Type	Bad INJ
EQUILIBRATION	1	1	0.00	0	0.00000	UNDR	O	---
EQUILIBRATION	2	1	6.81	861	0.96680	UNDR	OF	---
SOLVENT BLANK	3	1	0.00	0	0.00000	UNDR	OB	---
GCMIX-G2 100 NG/ML STD	4	1	6.81	64942	102.93946		OB	---
GCMIX-G3 60.0 NG/ML STD	5	1	6.82	37261	58.89080		OB	---
43767-133	6	1	0.00	0	0.00000	UNDR	OB	---
43767-134	7	1	6.81	6189	5.66716		OBF	---
43767-135	8	1	6.82	5709	5.20892		O	---
GCMIX-G4 40.0 NG/ML STD	9	1	6.82	24664	38.84469		O	---
43767-136	10	1	6.83	26999	51.07144		OB	---
43767-137	11	1	6.81	24002	45.34953		OB	---
GCMIX-G5 20.0 NG/ML STD	12	1	6.82	11899	18.53072		OB	---
43767-138	13	1	6.81	25602	9378.51758		OB	---
43767-139	14	1	6.81	24109	8826.15234		OB	---
GCMIX-G6 10.0 NG/ML STD	15	1	6.82	7289	11.19513		OBF	---
GCMIX-H7 4.00 NG/ML STD	16	1	6.82	2752	3.97486		OB	---

Acquisition and Peak Processing Parameters Report Print Date and Time : 03 SEP 97 07:25:04
Version 2 Page : 1
MCDO [43767] 29 SHIRTS15 Based on Sample Number : 1 Injection Number : 1

ACQUISITION PARAMETERS
Data Collection :
Length of Run..... 14.99 mins
Post Injection Delay..... 0.00 mins
Sampling Rate..... 15.00 Hz
Baseline Offset :
Adjust Baseline..... Yes
Baseline Offset..... 10.00 %

PEAK PROCESSING PARAMETERS
Auto Process Parameters :
Peak Threshold..... 0.50
Baseline Test..... 4
Peak Trend..... 4
Separation Parameters :
Shoulder Sensitivity..... 0.10
Rider Sensitivity..... 0.05
Rejection Parameters :
Minimum Peak Width..... 0.00 secs
Minimum Peak Height..... 500.00 uV
Minimum Peak Area..... 1000.00 uVs
Ignore Flat Top Peak..... No
User Imposed Action Control :
Forced Baseline..... No
Suppress Integration..... Yes
Tangent Skimming..... No
Shoulder Detection..... No
Data Bunching..... No
Negative Detection..... No
Integration Modes :
Retention Time Integration..... No
Square Root Area and Height..... No

PROCESSING ACTIONS

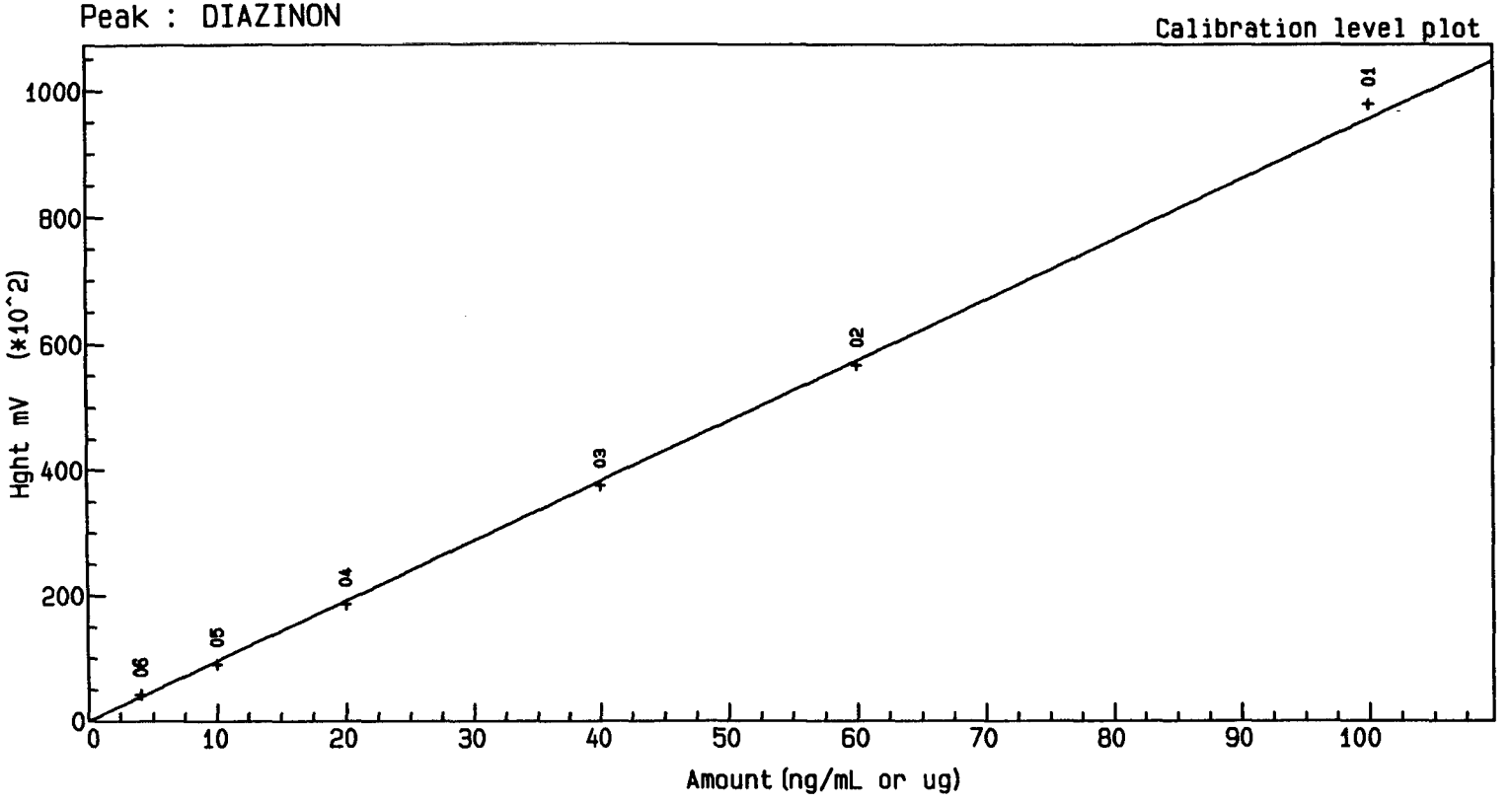
Time (mins)	Force Baseline	Integrate Suppress	Tangent Skim	Bunch Size	Shoulder Detect	Negative Detect
0.00	--	SI	_	0	--	--
5.50	--	ES	_	0	--	--
8.00	--	SI	_	0	--	--

Calibration last modified on 3-Sep-1997 at 07:13
Calibration Sequence..... AVERAGE

These parameters apply to all injections of set SHIRTS15 with no exceptions

ABC Laboratories, Inc. Multichrom ver 1.8-2

Calibration Name : 29 SHIRTS15.
43767 METHOD VALIDATION
Peak : DIAZINON



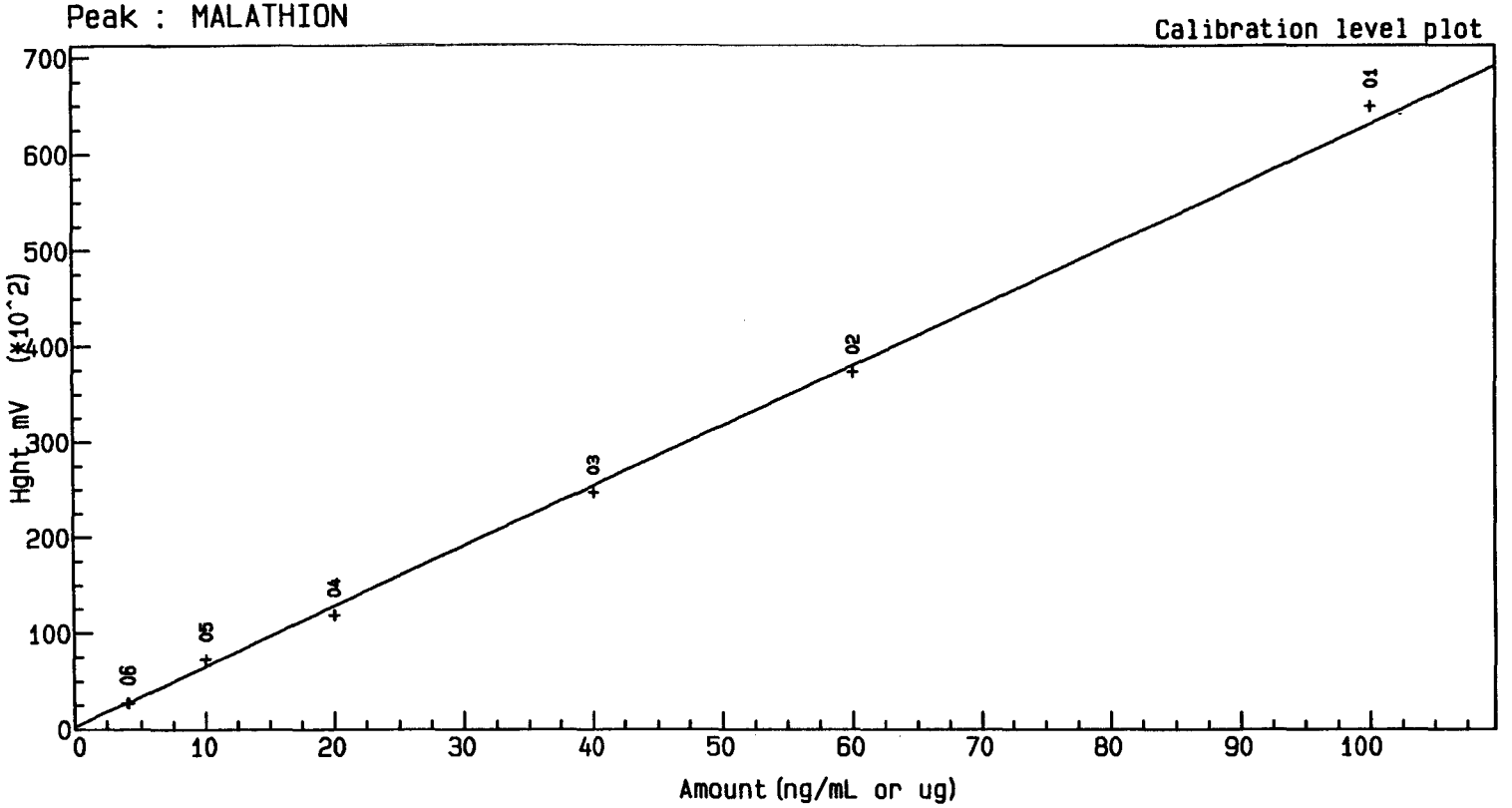
Constant : -1.154547E+1
1st degree : 9.54877E+2

Curve fit : Linear
Correlation coefficient : 0.99942
Standard error : 1.35065E+3

Reported on 3-SEP-1997 at 07:25

ABC Laboratories, Inc. Multichrom ver 1.8-2

Calibration Name : 29 SHIRTS15.
43767 METHOD VALIDATION
Peak : MALATHION



Constant : 2.53869E+2
1st degree : 6.28407E+2

Curve fit : Linear
Correlation coefficient : 0.99893
Standard error : 1.20849E+3

Reported on 3-SEP-1997 at 07:25

ABC Laboratories, Inc.

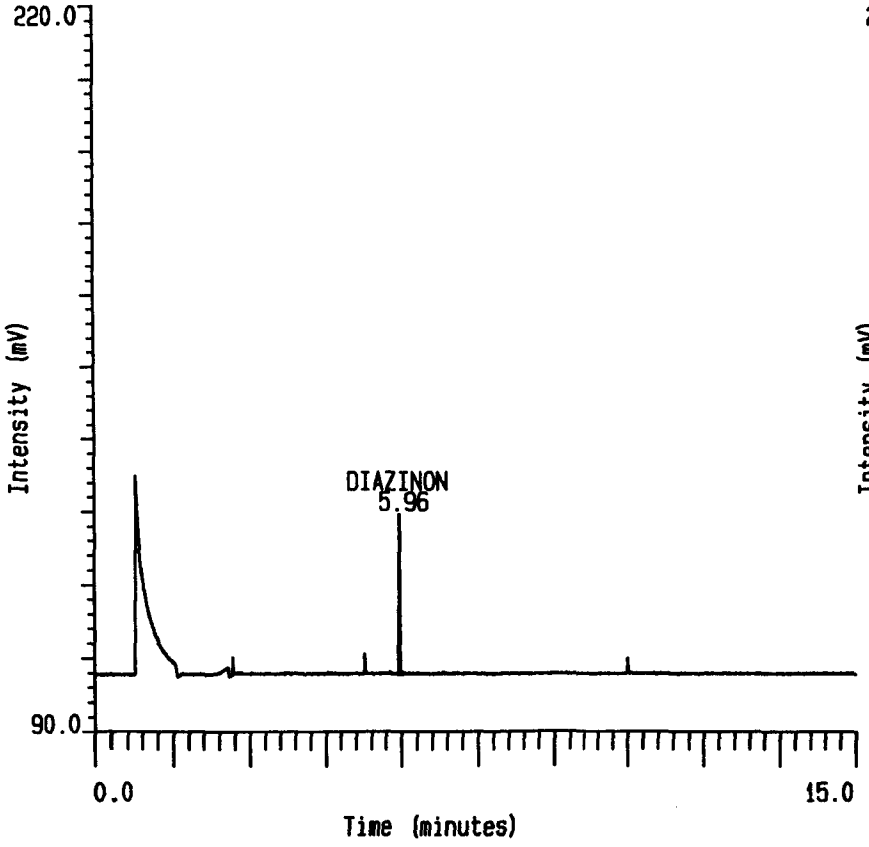
MCPP ver 2.3

43767 SHIRTS METHOD VALIDATION

Date of Report: 03 SEP 97 at 07:26:23

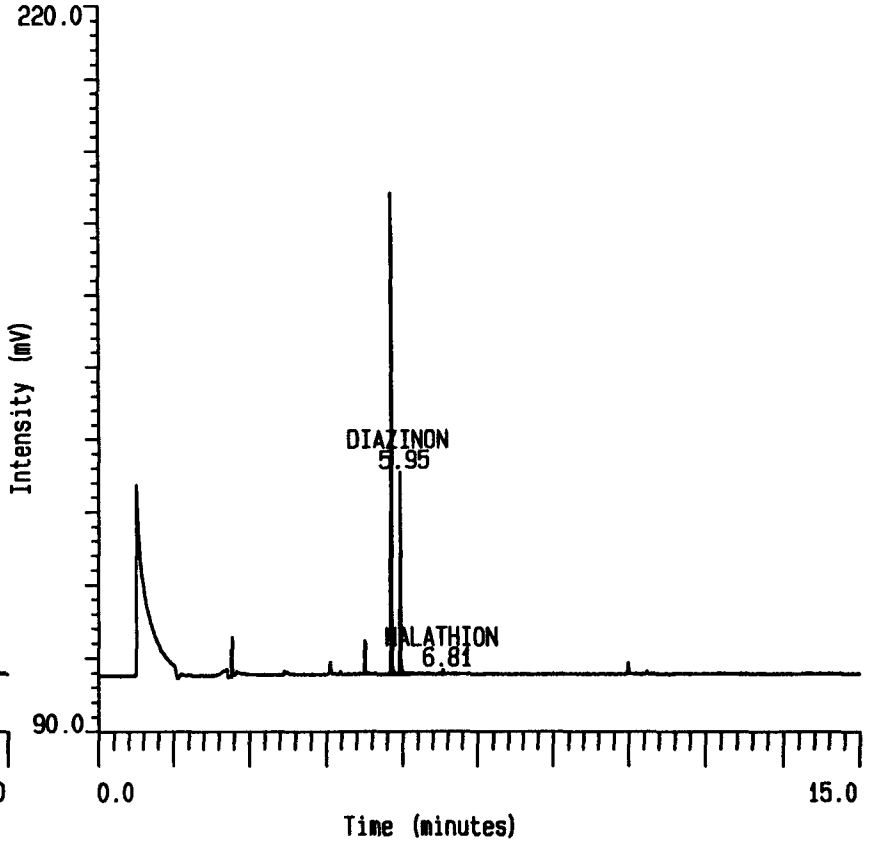
MCDO [43767] 29 SHIRTS15, 1, 1
EQUILIBRATION
Acquired on 2-Sep-1997 at 16:44

Peak Name	RT (mins)	Height	ng/mL or ug
DIAZINON	5.96	28511	29.87063
MALATHION	0.00	0	0



MCDO [43767] 29 SHIRTS15, 2, 1
EQUILIBRATION
Acquired on 2-Sep-1997 at 17:04

Peak Name	RT (mins)	Height	ng/mL or ug
DIAZINON	5.95	36110	37.82870
MALATHION	6.81	861	0.96680



ABC Laboratories, Inc.

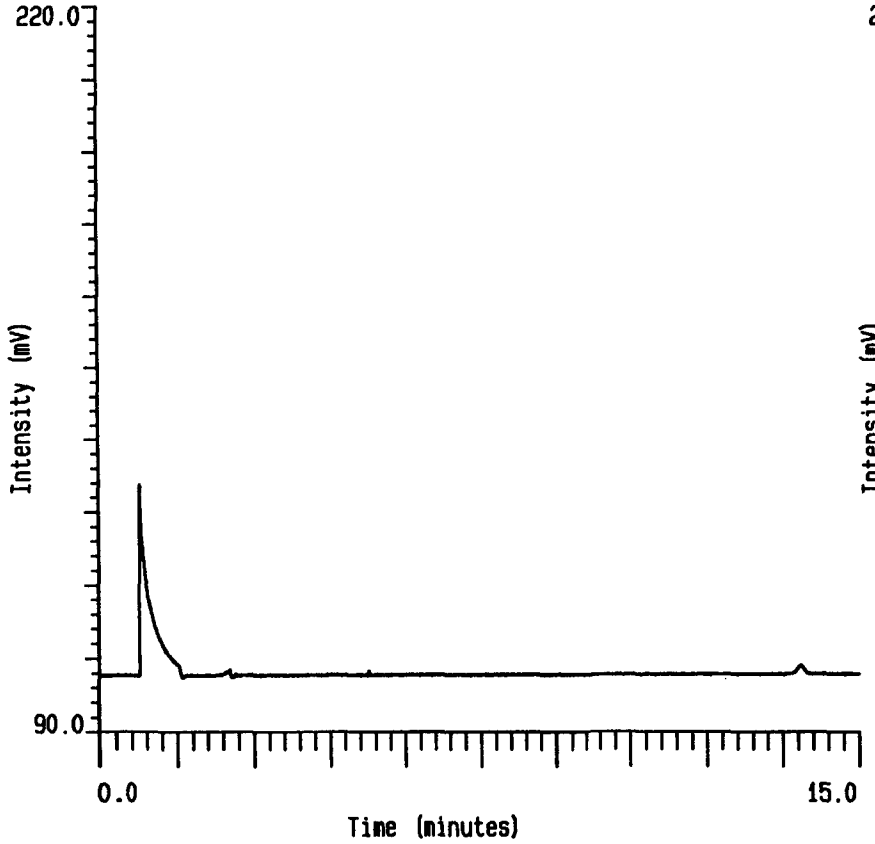
MCPP ver 2.3

43767 SHIRTS METHOD VALIDATION

Date of Report: 03 SEP 97 at 07:26:23

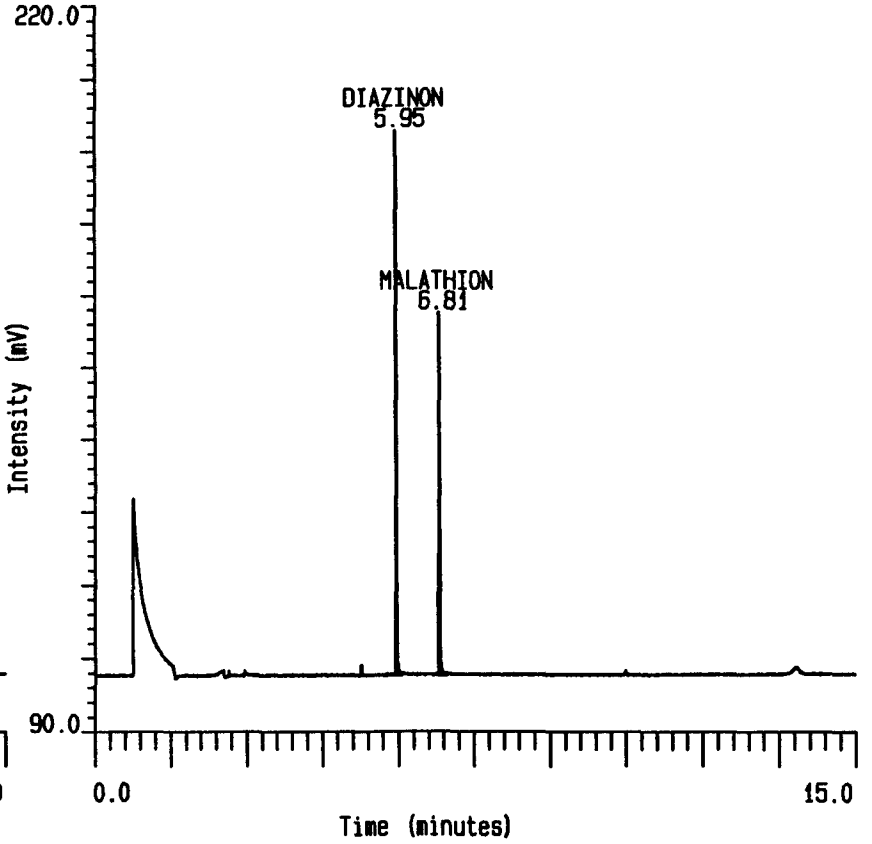
MCDO [43767] 29 SHIRTS15,3,1
SOLVENT BLANK
Acquired on 2-Sep-1997 at 17:24

Peak Name	RT (mins)	Height	ng/mL or ug
DIAZINON	0.00	0	0
MALATHION	0.00	0	0



MCDO [43767] 29 SHIRTS15,4,1
GCMIX-G2 100 NG/ML STD
Acquired on 2-Sep-1997 at 17:44

Peak Name	RT (mins)	Height	ng/mL or ug
DIAZINON	5.95	97805	102.43884
MALATHION	6.81	64942	102.93946



ABC Laboratories, Inc.

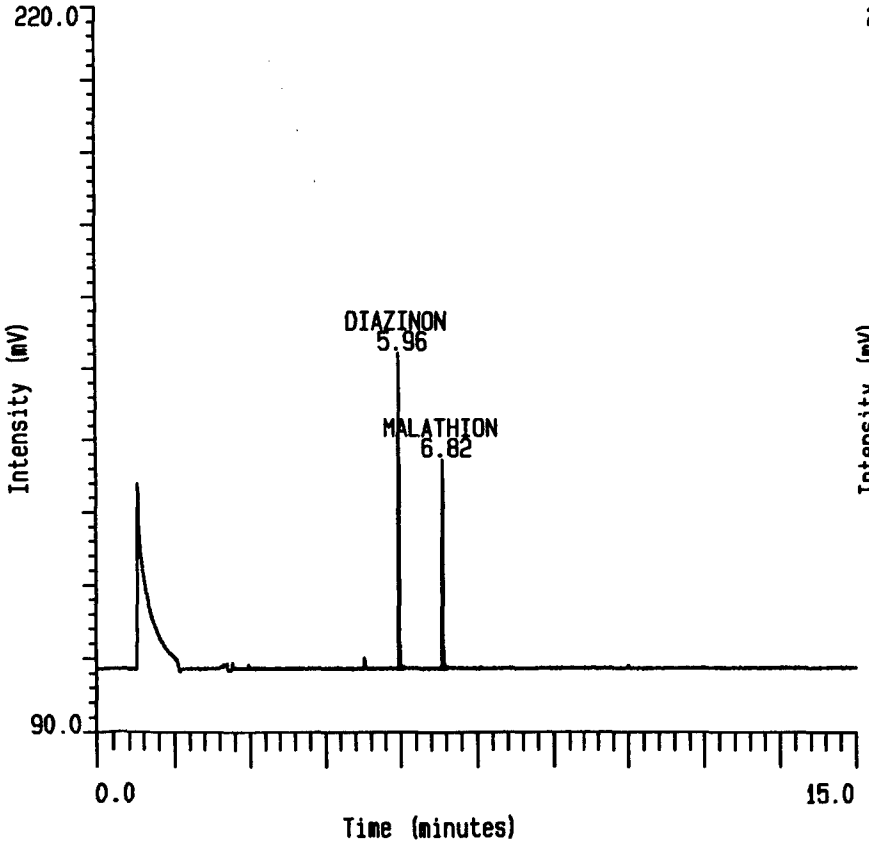
MCPP ver 2.3

43767 SHIRTS METHOD VALIDATION

Date of Report: 03 SEP 97 at 07:26:23

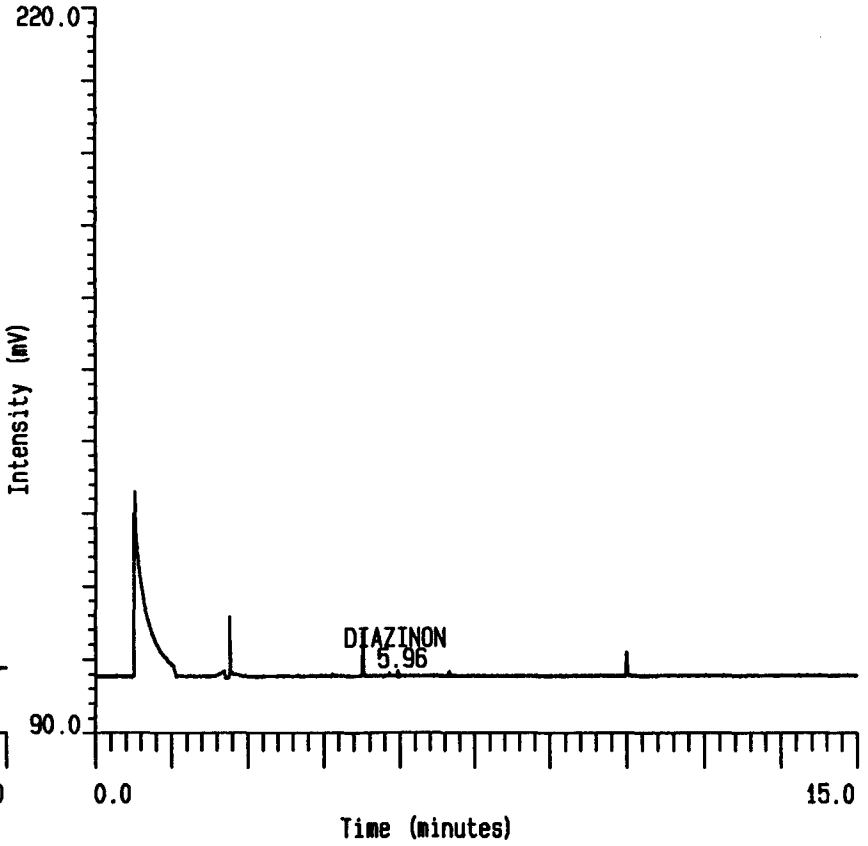
MCDO [43767] 29 SHIRTS15,5,1
GCMIX-G3 60.0 NG/ML STD
Acquired on 2-Sep-1997 at 18:05

Peak Name	RT (mins)	Height	ng/mL or ug
DIAZINON	5.96	56566	59.25105
MALATHION	6.82	37261	58.89080



MCDO [43767] 29 SHIRTS15,6,1
43767-133
Acquired on 2-Sep-1997 at 18:25

Peak Name	RT (mins)	Height	ng/mL or ug
DIAZINON	5.96	1020	0.64818
MALATHION	0.00	0	0



ABC Laboratories, Inc.

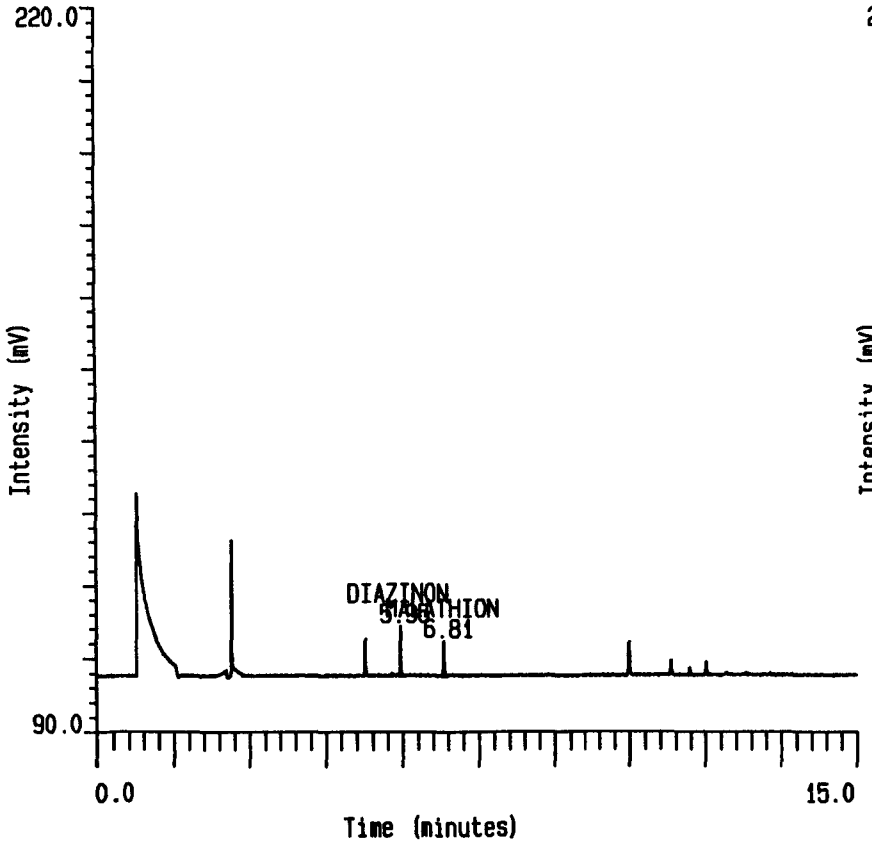
MCPP ver 2.3

43767 SHIRTS METHOD VALIDATION

Date of Report: 03 SEP 97 at 07:26:23

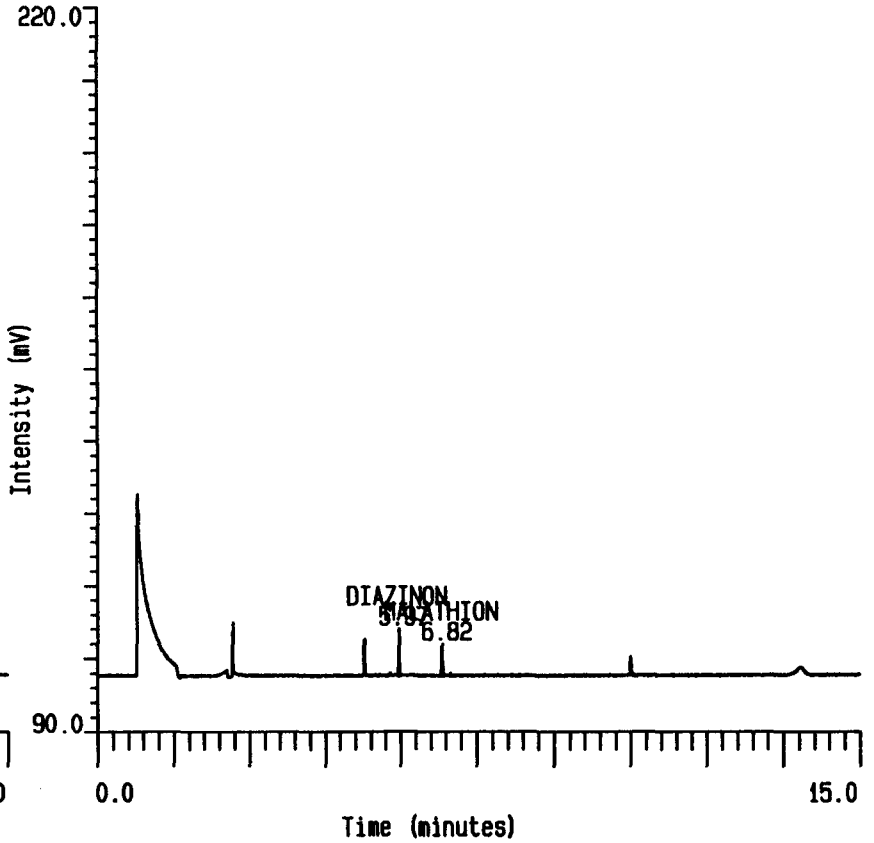
MCDO [43767] 29 SHIRTS15,7,1
43767-134
Acquired on 2-Sep-1997 at 18:45

Peak Name	RT (mins)	Height	ng/mL or ug
DIAZINON	5.95	8840	5.56184
MALATHION	6.81	6189	5.66716



MCDO [43767] 29 SHIRTS15,8,1
43767-135
Acquired on 2-Sep-1997 at 19:05

Peak Name	RT (mins)	Height	ng/mL or ug
DIAZINON	5.97	8420	5.29786
MALATHION	6.82	5709	5.20892



ABC Laboratories, Inc.

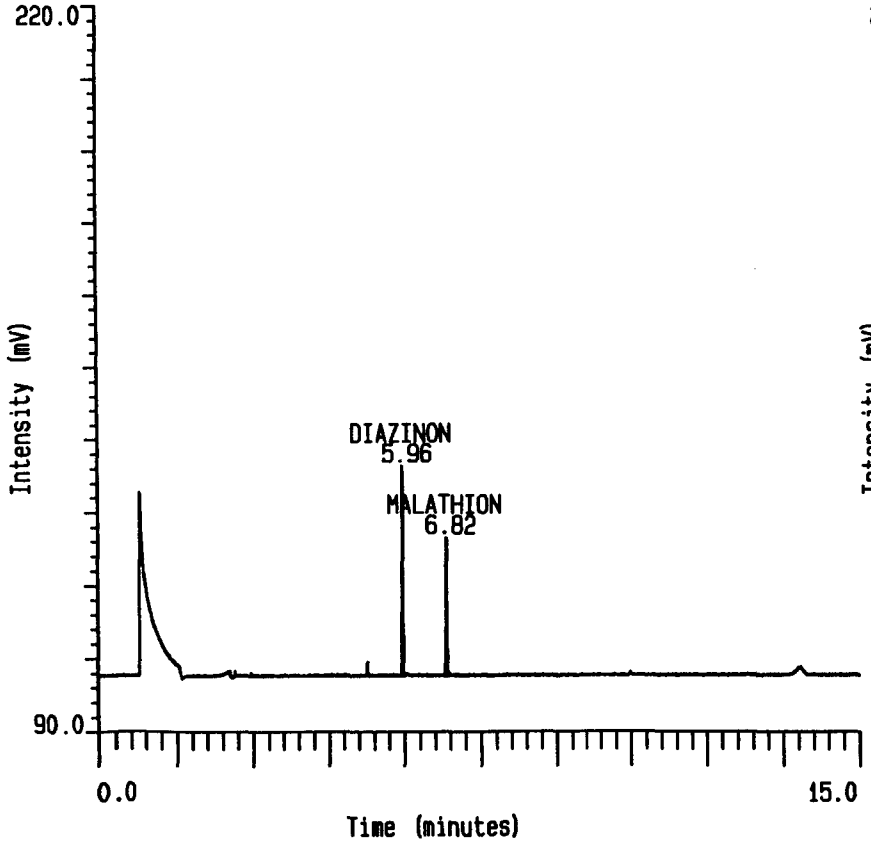
MCPP ver 2.3

43767 SHIRTS METHOD VALIDATION

Date of Report: 03 SEP 97 at 07:26:23

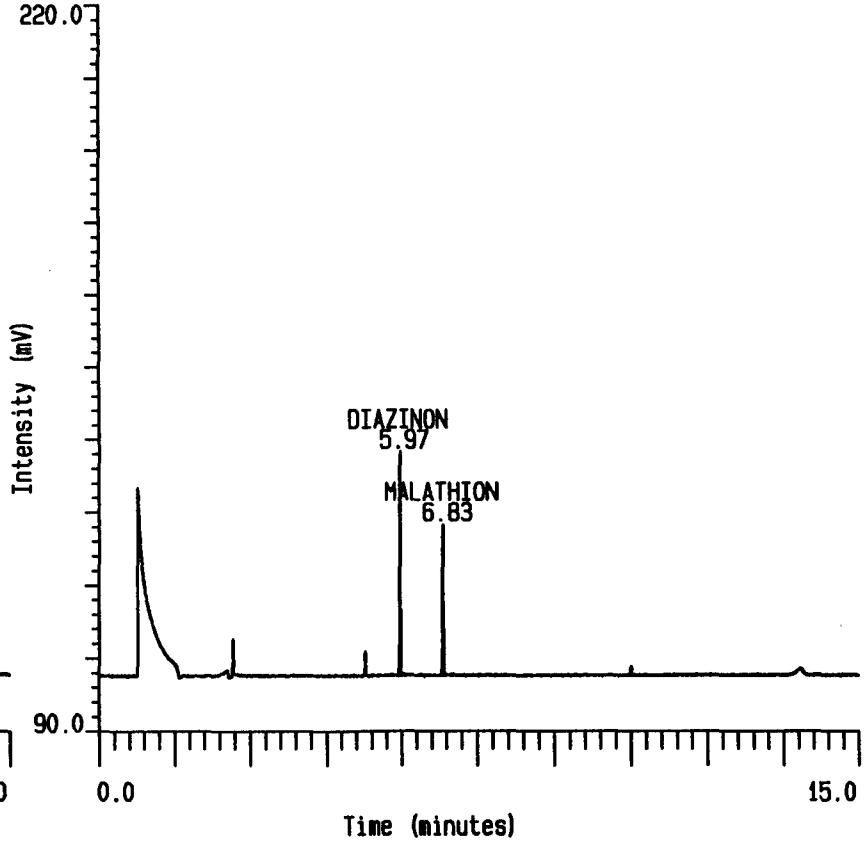
MCDO [43767] 29 SHIRTS15, 9, 1
GCMIX-G4 40.0 NG/ML STD
Acquired on 2-Sep-1997 at 19:26

Peak Name	RT (mins)	Height	ng/mL or ug
DIAZINON	5.96	37419	39.19984
MALATHION	6.82	24664	38.84469



MCDO [43767] 29 SHIRTS15, 10, 1
43767-136
Acquired on 2-Sep-1997 at 19:46

Peak Name	RT (mins)	Height	ng/mL or ug
DIAZINON	5.97	40031	50.32181
MALATHION	6.83	26999	51.07144



ABC Laboratories, Inc.

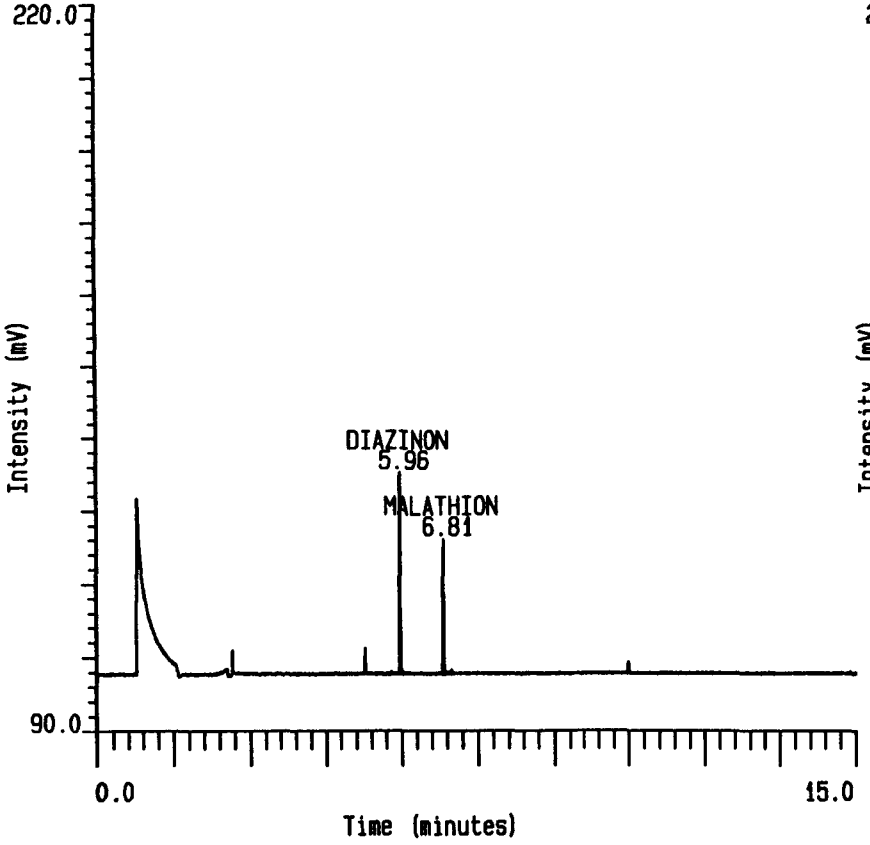
MCPP ver 2.3

43767 SHIRTS METHOD VALIDATION

Date of Report: 03 SEP 97 at 07:26:23

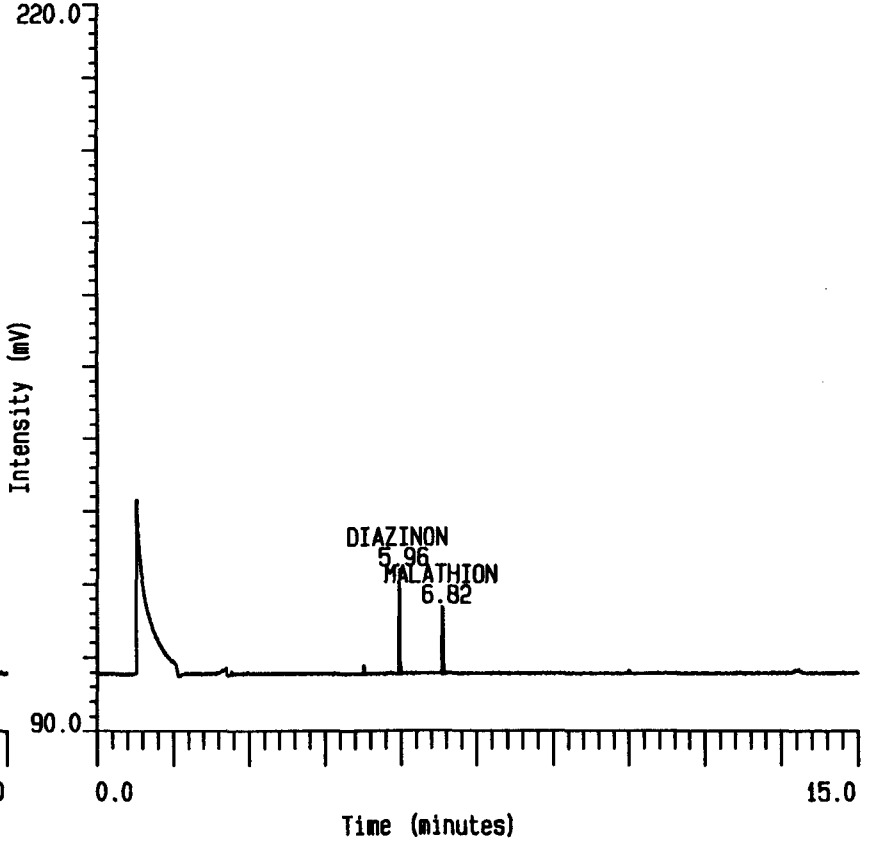
MCDO [43767] 29 SHIRTS15, 11, 1
43767-137
Acquired on 2-Sep-1997 at 20:06

Peak Name	RT (mins)	Height	ng/mL or ug
DIAZINON	5.96	35889	45.11662
MALATHION	6.81	24002	45.34953



MCDO [43767] 29 SHIRTS15, 12, 1
GCMIX-G5 20.0 NG/ML STD
Acquired on 2-Sep-1997 at 20:26

Peak Name	RT (mins)	Height	ng/mL or ug
DIAZINON	5.96	18523	19.41078
MALATHION	6.82	11899	18.53072



ABC Laboratories, Inc.

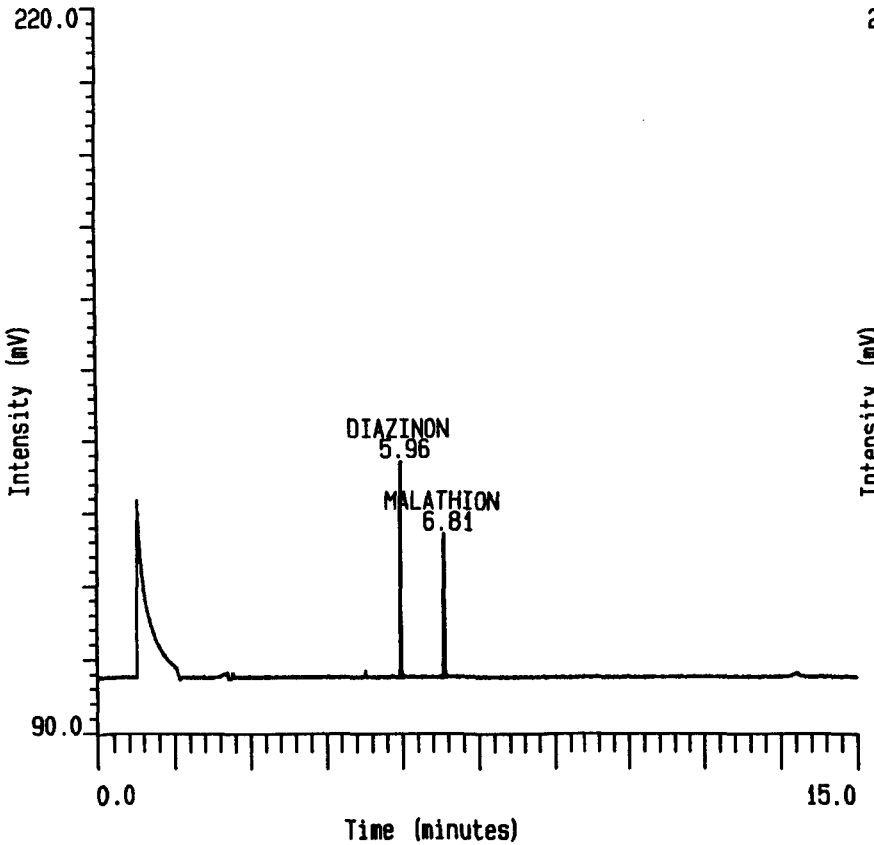
MCPP ver 2.3

43767 SHIRTS METHOD VALIDATION

Date of Report: 03 SEP 97 at 07:26:23

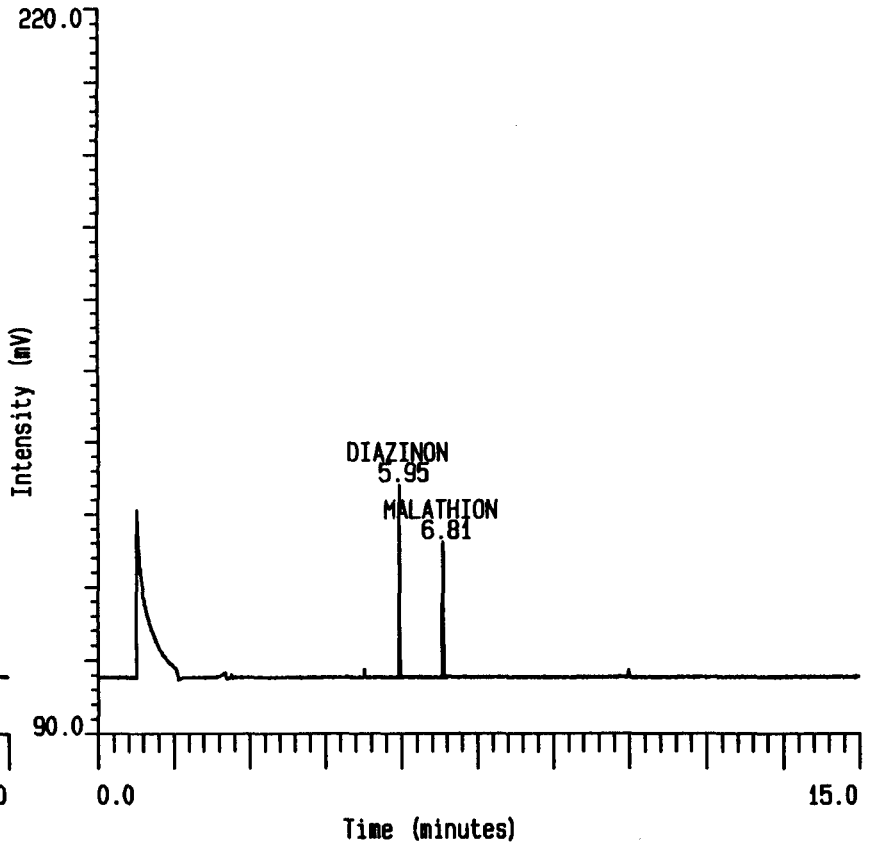
MCDO [43767] 29 SHIRTS15, 13, 1
43767-138
Acquired on 2-Sep-1997 at 20:47

Peak Name	RT (mins)	Height	ng/mL or ug
DIAZINON	5.96	38644	9412.12793
MALATHION	6.81	25602	9378.51758



MCDO [43767] 29 SHIRTS15, 14, 1
43767-139
Acquired on 2-Sep-1997 at 21:07

Peak Name	RT (mins)	Height	ng/mL or ug
DIAZINON	5.95	34440	8388.57031
MALATHION	6.81	24109	8826.15234



ABC Laboratories, Inc.

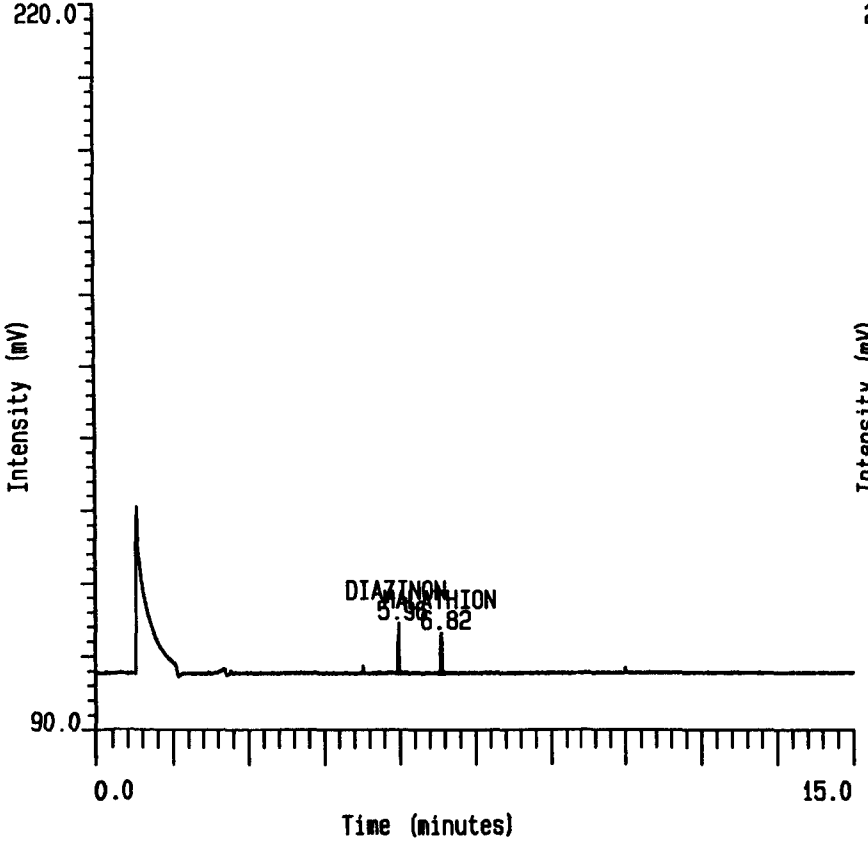
MCPP ver 2.3

43767 SHIRTS METHOD VALIDATION

Date of Report: 03 SEP 97 at 07:26:23

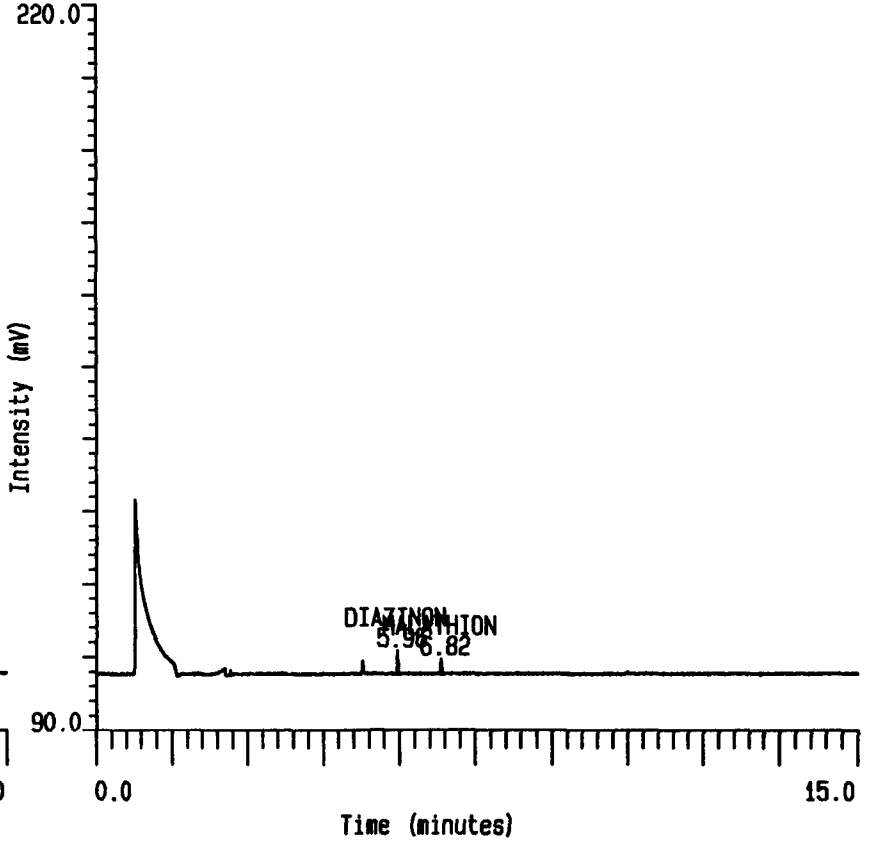
MCDO [43767] 29 SHIRTS15, 15, 1
GCMIX-G6 10.0 NG/ML STD
Acquired on 2-Sep-1997 at 21:27

Peak Name	RT (mins)	Height	ng/mL or ug
DIAZINON	5.96	9002	9.43944
MALATHION	6.82	7289	11.19513



MCDO [43767] 29 SHIRTS15, 16, 1
GCMIX-H7 4.00 NG/ML STD
Acquired on 2-Sep-1997 at 21:47

Peak Name	RT (mins)	Height	ng/mL or ug
DIAZINON	5.96	4227	4.43860
MALATHION	6.82	2752	3.97486



[43767] 29 SHIRTS15 Page 1
Reported on 16-SEP-1997 at 14:56
Modified on 3-SEP-1997 at 07:13

List Calibration File

CALIBRATION HEADER INFORMATION

Calibration Title : 43767 METHOD VALIDATION
General :
Calibration type..... External standard
Units..... ng/mL or ug
Calibration base..... Height
Reference Peak Identification :
Reference window..... 5.0 %
Minimum window..... 0.50 mins
Peak threshold..... 0.0 %
Uncalibrated Peaks Response Factor :
Response factor source..... User set response factor
Response factor..... 0.0000
Additional Information :
Source library..... None
Initialise on 1st standard..... No
Variation tolerance..... 100.00 %
Calibrant Peak Identification :
Calibrant window..... 0.15 mins
Calibrant threshold..... 0.0 %
Response Factor Calibration Curve :
Curve fit..... Linear
Force through zero..... No
X transformation..... None
Y transformation..... None
Weighting..... 1 / Y
Retention Value Calibration Curve :
Curve fit..... Linear
Force through zero..... No
X transformation..... None
Y transformation..... None
Weighting..... None
Timed Calibration Curve :
Curve fit..... Linear
Force through zero..... No
X transformation..... None
Y transformation..... None
Weighting..... None
No group information entered.

[43767] 29 SHIRTS15 Page 2
Reported on 16-SEP-1997 at 14:56
Modified on 3-SEP-1997 at 07:13

Peak name : DIAZINON
Expected retention time : 5.96 mins (RT range : 5.89 - 6.03 mins)

Peak window mode..... Global
Group name identifier..... ----
Peak identification mode..... Largest
Must peak..... No
Reference peak..... No
Dilution peak..... No
Retention standard..... No
Response factor mode..... Internal Levels
Purity..... 100.0000

Calibration level	Standard amount	Response factor	Calibration count
06	4.0000	1056.6935	1
05	10.0000	900.1963	1
04	20.0000	926.1683	1
03	40.0000	935.4869	1
02	60.0000	942.7653	1
01	100.0000	978.0494	1

Peak name : MALATHION
Expected retention time : 6.82 mins (RT range : 6.75 - 6.89 mins)

Peak window mode..... Global
Group name identifier..... ----
Peak identification mode..... Largest
Must peak..... No
Reference peak..... No
Dilution peak..... No
Retention standard..... No
Response factor mode..... Internal Levels
Purity..... 100.0000

Calibration level	Standard amount	Response factor	Calibration count
06	4.0000	687.9252	1
05	10.0000	728.8970	1
04	20.0000	594.9352	1
03	40.0000	616.6037	1
02	60.0000	621.0211	1
01	100.0000	649.4175	1

SAMPLE TRACKING FORM

Customer Name: ARTF	Study Director: Loren C. Schrier	Test Material: Diazinon and Malathion	Matrix: Outer Dosimeters (Shirts)
ARTF Protocol: ARF003	ABC Study Number: 43767	Outer Cotton (Shirts) Dosimeters Repeat Method Validation Set 3	

Extraction	Partitioning	C18 Cleanup	Vial	GC/FPD Analysis	Chromatography review:
CYG 9-4-97 JW 4Sep97 ③ CYG 9-12-97 ④ CYG 9-15-97	JW 4Sep97 CYG 9-12-97 CYG 9-15-97	CYG 9-4-97 CYG 9-12-97 CYG 9-15-97	CYG 9-4-97 CYG 9-12-97 CYG 9-15-97	CYG 9-4-97 JEB 12 Sep 97 CYG 9-15-97	JC 5 Sept 97
					Spreadsheet entry by: JC 24 Sept 97
					Fortified by: JW 4Sep97 ① Witnessed by: CYG 9-4-97

ABC Lab Number	Sample Description	Extraction Volume	Aliquot Taken	AOT Volume, Aliquot for C18 Cleanup	DCM Elution Volume	Final Volume and Dilutions	
43767-140	Control Back Torso	2500 mL	25.0 mL	15.0 mL, then 5.00 mL	16 mL	2.00 mL	
43767-141	Control Upper Arm + nominal 5.00 ug Each	2500 mL	25.0 mL	15.0 mL, then 5.00 mL	16 mL	2.00 mL	Fortify with 0.500 mL of 10.0 ug/mL mixed fortification solution (2Mix-F2)
43767-142	Control Lower Arm + nominal 5.00 ug Each	2500 mL	25.0 mL	15.0 mL, then 5.00 mL	16 mL	2.00 mL	Fortify with 0.500 mL of 10.0 ug/mL mixed fortification solution (2Mix-F2)
43767-143	Control Front Torso + nominal 50.0 ug Each	2500 mL	25.0 mL	15.0 mL, then 5.00 mL	16 mL	4.00 mL	Fortify with 1.00 mL of 50.0 ug/mL mixed fortification solution (2Mix-E2)
43767-144	Control Back Torso + nominal 50.0 ug Each	2500 mL	25.0 mL	15.0 mL, then 5.00 mL	16 mL	4.00 mL	Fortify with 1.00 mL of 50.0 ug/mL mixed fortification solution (2Mix-E2)
43767-145	Control Upper Arm + nominal 10000 ug Each	2500 mL	25.0 mL	15.0 mL, then 5.00 mL	16 mL	25.0 mL, then dilute 0.50 mL to 15.5 mL	Fortify with 2.0 mL of 5.00 mg/mL mixed fortification solution (2Mix-A2)
43767-146	Control Lower Arm + nominal 10000 ug Each	2500 mL	25.0 mL	15.0 mL, then 5.00 mL	16 mL	25.0 mL, then dilute 0.50 mL to 15.5 mL	Fortify with 2.0 mL of 5.00 mg/mL mixed fortification solution (2Mix-A2)

Remarks: ① Signed today. JW 5Sep97

Acetone: BP707 CYG 9-4-97 ③ ⑤
Hexane: BN936 CYG 9-4-97 ③ ⑤
Ethyl Ether: BN234 CYG 9-4-97 ③ ⑤

DCM: BN794 CYG 9-4-97 ③ ⑤
Methanol: BO820 CYG 9-4-97 ③ ⑤
C18 SPE: Varian Bond Elut 1 g/6 mL, Lot 071340
Water: Labconco DI ③ ⑤

② The method was repeated from 25.0 mL aliquot, samples were labeled: 43767-140A, 141A, 142A, 143A, 144A, 145A, 146A, CYG 9-12-97

③ Same lot number was used on 9-12-97 CYG 9-12-97

Checked by BJB 24 Sep 97

Approved by JC 14 Oct 97

④ The method was repeated from 25.0 mL aliquot, samples were labeled: 43767-140B, 141B, 142B, 143B, 144B, 145B, 146B CYG 9-15-97

⑤ Same lot number was used on 9-15-97 CYG 9-15-97

⑥ E CYG 9-15-97

[43767] 29 SHIRTS16 Page 1
Reported on 5-SEP-1997 at 06:50
Modified on 4-SEP-1997 at 13:30

List Run Sequence File

ANALYST NAME..... LOREN C. SCHRIER
43767 SHIRTS METHOD VALIDATION (THIRD SET)

ANALYSIS INFORMATION

Analysis name..... SHIRTS16
Method name..... SHIRTS16
Calibration name..... SHIRTS16
Calibration sequence..... Average Standard
User parameter 1 name..... FINAL VOLUME (ML)
User parameter 2 name..... FACTOR 1
User parameter 3 name..... FACTOR 2

SAMPLE SUMMARY

SAMPLE NUMBER	LIMS ID	SAMPLE NAME
1	----------	EQUILIBRATION
2	----------	EQUILIBRATION
3	----------	SOLVENT BLANK
4	----------	GCMIX-G2 100 NG/ML STD
5	----------	GCMIX-G3 60.0 NG/ML STD
6	----------	43767-140
7	----------	43767-141
8	----------	43767-142
9	----------	GCMIX-G4 40.0 NG/ML STD
10	----------	43767-143
11	----------	43767-144
12	----------	GCMIX-G5 20.0 NG/ML STD
13	----------	43767-145
14	----------	43767-146
15	----------	GCMIX-G6 10.0 NG/ML STD
16	----------	GCMIX-H7 4.00 NG/ML STD

[43767] 29 SHIRTS16 Page 2
Reported on 5-SEP-1997 at 06:50
Modified on 4-SEP-1997 at 13:30

SAMPLE INFORMATION

SAMPLE NUMBER	TYPE	CALIB LEVEL	UPDATE RT	UPDATE RF	AMOUNT	NUM INJ	BOT NUM
1	Sa	--	-	-	1.00000	1	1
2	Sa	--	-	-	1.00000	1	2
3	Sa	--	-	-	1.00000	1	3
4	St	01	N	I	1.00000	1	4
5	St	02	N	I	1.00000	1	5
6	Sa	--	-	-	1.00000	1	6
7	Sa	--	-	-	1.00000	1	7
8	Sa	--	-	-	1.00000	1	8
9	St	03	N	I	1.00000	1	9
10	Sa	--	-	-	1.00000	1	10
11	Sa	--	-	-	1.00000	1	11
12	St	04	N	I	1.00000	1	12
13	Sa	--	-	-	1.00000	1	13
14	Sa	--	-	-	1.00000	1	14
15	St	05	N	I	1.00000	1	15
16	St	06	N	I	1.00000	1	16

USER PARAMETER VALUES

SAMPLE	FINAL VOLUME (ML)	FACTOR 1	FACTOR 2
1	1.00000	1.00000	1.00000
2	1.00000	1.00000	1.00000
3	2.00000	37500.00000	125000.00000
4	1.00000	1.00000	1.00000
5	1.00000	1.00000	1.00000
6	2.00000	37500.00000	125000.00000
7	2.00000	37500.00000	125000.00000
8	2.00000	37500.00000	125000.00000
9	1.00000	1.00000	1.00000
10	4.00000	37500.00000	125000.00000
11	4.00000	37500.00000	125000.00000
12	1.00000	1.00000	1.00000
13	25.00000	581250.00000	62500.00000
14	25.00000	581250.00000	62500.00000
15	1.00000	1.00000	1.00000
16	1.00000	1.00000	1.00000

[43767] 29 SHIRTS16 Page 3
Reported on 5-SEP-1997 at 06:50
Modified on 4-SEP-1997 at 13:30

INTERNAL/DILUTION STANDARDS

SAMPLE NUMBER	ISTD1 AMOUNT	ISTD2 AMOUNT	ISTD3 AMOUNT	DIL1 AMOUNT	DIL2 AMOUNT
1	1.00000	1.00000	1.00000	1.00000	1.00000
2	1.00000	1.00000	1.00000	1.00000	1.00000
3	1.00000	1.00000	1.00000	1.00000	1.00000
4	1.00000	1.00000	1.00000	1.00000	1.00000
5	1.00000	1.00000	1.00000	1.00000	1.00000
6	1.00000	1.00000	1.00000	1.00000	1.00000
7	1.00000	1.00000	1.00000	1.00000	1.00000
8	1.00000	1.00000	1.00000	1.00000	1.00000
9	1.00000	1.00000	1.00000	1.00000	1.00000
10	1.00000	1.00000	1.00000	1.00000	1.00000
11	1.00000	1.00000	1.00000	1.00000	1.00000
12	1.00000	1.00000	1.00000	1.00000	1.00000
13	1.00000	1.00000	1.00000	1.00000	1.00000
14	1.00000	1.00000	1.00000	1.00000	1.00000
15	1.00000	1.00000	1.00000	1.00000	1.00000
16	1.00000	1.00000	1.00000	1.00000	1.00000

PROCESSING ORDER

SAMPLE NUMBER	TYPE
4	Standard
5	Standard
9	Standard
12	Standard
15	Standard
16	Standard
1	Sample
2	Sample
3	Sample
6	Sample
7	Sample
8	Sample
10	Sample
11	Sample
13	Sample
14	Sample

Gas Chromatographic Instrument Parameters Form

ABC Laboratory Study Number: 43767
Customer Identification: ARTF

Instrument: HP 5890 Series II Material ID# 1652-0120
Autoinjector: HP 7673B Material ID# 1625-802A

Column: HP-5MS, 30 M X 0.25 mm, 0.25 μm film thickness
Serial#: 57105214

Detector Type: FPD/P

Electrometer: Range 4

Temperatures:
- Injector (°C): 230
- Detector (°C): 230
- Column:
  - Initial Temp.(°C): 95
  - Initial Time: 1.0 min.
  - Program Rate 1: 30 °C/min to 230 °C, hold 4 min
  - Program Rate 2: 40 °C/min to 290 °C, hold 4 min

Carrier Gas Flow Rate:	He	1.6 mL/min
Septum Purge:	He	2.0 mL/min
Make Up Gas:	N_2	21 mL/min
Air Flow Rate:		98 mL/min.
Hydrogen Flow Rate:		69 mL/min.
Purge Valve:	Off at 0 min, on at 0.75 min	

Injection Volume: 2 μL

Run Sequence File: Shirts 16

Quantitation Standards: GCMIX-G2, G3, G4, G5, G6, H7

Prepared By: CY Guo Date: 9-4-97

Checked By: [illegible] Date: 5 Sept 97

MCDO [43767] 29 SHIRTS16

ABC Laboratories, Inc.
Sample Information Report ver 3.3

Report Date: 05 SEP 97 at 07:00:55
Page 1

Sample Name	No.	Type	Level	User Parameter 1 FINAL VOLUME (ML)	User Parameter 2 FACTOR 1	User Parameter 3 FACTOR 2
EQUILIBRATION	1	SA		1.00000	1.00000	1.00000
EQUILIBRATION	2	SA		1.00000	1.00000	1.00000
SOLVENT BLANK	3	SA		2.00000	37500.00000	125000.00000
GCMIX-G2 100 NG/ML STD	4	ST	01	1.00000	1.00000	1.00000
GCMIX-G3 60.0 NG/ML STD	5	ST	02	1.00000	1.00000	1.00000
43767-140	6	SA		2.00000	37500.00000	125000.00000
43767-141	7	SA		2.00000	37500.00000	125000.00000
43767-142	8	SA		2.00000	37500.00000	125000.00000
GCMIX-G4 40.0 NG/ML STD	9	ST	03	1.00000	1.00000	1.00000
43767-143	10	SA		4.00000	37500.00000	125000.00000
43767-144	11	SA		4.00000	37500.00000	125000.00000
GCMIX-G5 20.0 NG/ML STD	12	ST	04	1.00000	1.00000	1.00000
43767-145	13	SA		25.00000	581250.00000	62500.00000
43767-146	14	SA		25.00000	581250.00000	62500.00000
GCMIX-G6 10.0 NG/ML STD	15	ST	05	1.00000	1.00000	1.00000
GCMIX-H7 4.00 NG/ML STD	16	ST	06	1.00000	1.00000	1.00000

MCDO [43767] 29 SHIRTS16

ABC Laboratories, Inc.
Results Information Report ver 3.3
Component Name: DIAZINON

Report Date: 05 SEP 97
Time: 07:00:55
Page: 1

Sample Name	SMP #	INJ #	RT(mins)	Height	ng/mL or ug	CAL. RANG	Peak Type	Bad INJ
EQUILIBRATION	1	1	5.89	20709	21.00309		OB	---
EQUILIBRATION	2	1	5.88	32590	33.19246		OBF	---
SOLVENT BLANK	3	1	0.00	0	0.00000	UNDR	OB	---
GCMIX-G2 100 NG/ML STD	4	1	5.88	103382	105.82325		OB	---
GCMIX-G3 60.0 NG/ML STD	5	1	5.88	55042	56.22749		OB	---
43767-140	6	1	0.00	0	0.00000	UNDR	O	---
43767-141	7	1	5.89	8488	5.07866		OB	---
43767-142	8	1	5.88	7074	4.20856		OB	---
GCMIX-G4 40.0 NG/ML STD	9	1	5.88	37614	38.34644		OB	---
43767-143	10	1	5.89	34561	42.25714		OB	---
43767-144	11	1	5.87	38889	47.58548		OB	---
GCMIX-G5 20.0 NG/ML STD	12	1	5.87	19652	19.91831		OB	---
43767-145	13	1	5.89	56472	13413.94043		OB	---
43767-146	14	1	5.87	54315	12899.41016		OB	---
GCMIX-G6 10.0 NG/ML STD	15	1	5.89	10116	10.13469		OBF	---
GCMIX-H7 4.00 NG/ML STD	16	1	5.89	4335	4.20382		O	---

MCDO [43767] 29 SHIRTS16

ABC Laboratories, Inc.
Results Information Report ver 3.3
Component Name: MALATHION

Report Date: 05 SEP 97
Time: 07:00:55
Page: 1

Sample Name	SMP #	INJ #	RT(mins)	Height	ng/mL or ug	CAL. RANG	Peak Type	Bad INJ
EQUILIBRATION	1	1	0.00	0	0.00000	UNDR	O	---
EQUILIBRATION	2	1	0.00	0	0.00000	UNDR	OB	---
SOLVENT BLANK	3	1	0.00	0	0.00000	UNDR	O	---
GCMIX-G2 100 NG/ML STD	4	1	6.72	66464	103.85123		OB	---
GCMIX-G3 60.0 NG/ML STD	5	1	6.72	36466	56.61256		OB	---
43767-140	6	1	0.00	0	0.00000	UNDR	OB	---
43767-141	7	1	6.73	5966	5.14969		O	---
43767-142	8	1	6.72	5844	5.03431		OB	---
GCMIX-G4 40.0 NG/ML STD	9	1	6.72	25408	39.19811		OBF	---
43767-143	10	1	6.73	23173	42.81533		OB	---
43767-144	11	1	6.70	26241	48.61340		OB	---
GCMIX-G5 20.0 NG/ML STD	12	1	6.71	12904	19.50835		OB	---
43767-145	13	1	6.72	38705	13982.02441		OB	---
43767-146	14	1	6.71	36248	13082.40723		OB	---
GCMIX-G6 10.0 NG/ML STD	15	1	6.73	8046	11.85731		O	---
GCMIX-H7 4.00 NG/ML STD	16	1	6.73	2829	3.64283		O	---

Acquisition and Peak Processing Parameters Report Print Date and Time : 05 SEP 97 07:06:34
Version 2 Page : 1
MCDO [43767] 29 SHIRTS16 Based on Sample Number : 1 Injection Number : 1

ACQUISITION PARAMETERS
Data Collection :
Length of Run..... 14.98 mins
Post Injection Delay..... 0.00 mins
Sampling Rate..... 15.00 Hz
Baseline Offset :
Adjust Baseline..... Yes
Baseline Offset..... 10.00 %

PEAK PROCESSING PARAMETERS
Auto Process Parameters :
Peak Threshold..... 0.50
Baseline Test..... 4
Peak Trend..... 4
Separation Parameters :
Shoulder Sensitivity..... 0.10
Rider Sensitivity..... 0.05
Rejection Parameters :
Minimum Peak Width..... 0.00 secs
Minimum Peak Height..... 500.00 uV
Minimum Peak Area..... 1000.00 uVs
Ignore Flat Top Peak..... No
User Imposed Action Control :
Forced Baseline..... No
Suppress Integration..... Yes
Tangent Skimming..... No
Shoulder Detection..... No
Data Bunching..... No
Negative Detection..... No
Integration Modes :
Retention Time Integration..... No
Square Root Area and Height..... No

PROCESSING ACTIONS

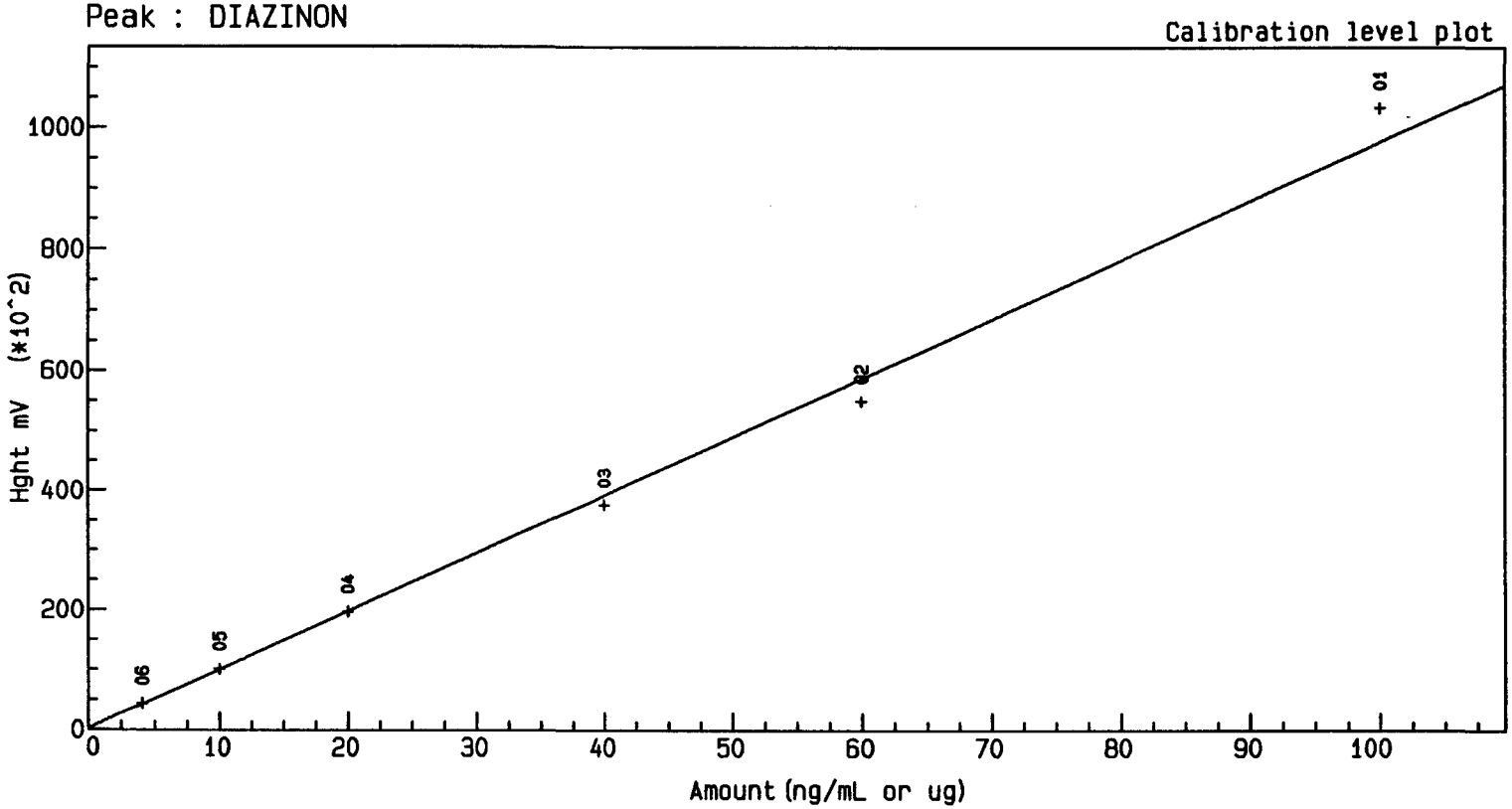
Time (mins)	Force Baseline	Integrate Suppress	Tangent Skim	Bunch Size	Shoulder Detect	Negative Detect
0.00	--	SI	_	0	--	--
5.50	--	ES	_	0	--	--
7.50	--	SI	_	0	--	--

Calibration last modified on 5-Sep-1997 at 06:54
Calibration Sequence..... AVERAGE

These parameters apply to all injections of set SHIRTS16 with no exceptions

ABC Laboratories, Inc. Multichrom ver 1.8-2

Calibration Name : 29 SHIRTS16.
43767 METHOD VALIDATION (THIRD SET)
Peak : DIAZINON



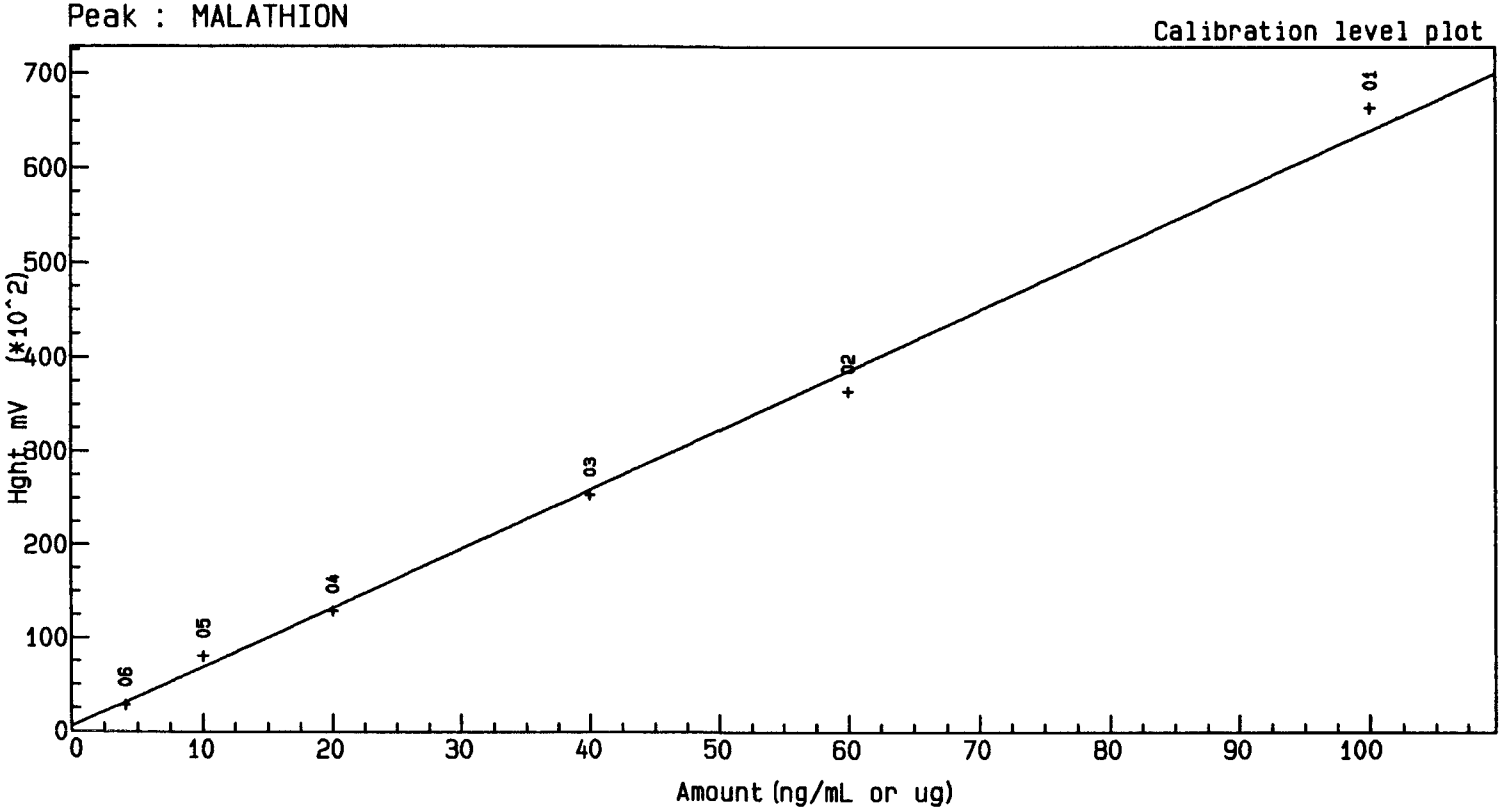
Constant : 2.37672E+2
1st degree : 9.74689E+2

Curve fit : Linear
Correlation coefficient : 0.99644
Standard error : 3.47838E+3

Reported on 5-SEP-1997 at 07:07

ABC Laboratories, Inc. Multichrom ver 1.8-2

Calibration Name : 29 SHIRTS16.
43767 METHOD VALIDATION (THIRD SET)
Peak : MALATHION



Constant : 5.16096E+2
1st degree : 6.35020E+2

Curve fit : Linear
Correlation coefficient : 0.99776
Standard error : 1.76121E+3

Reported on 5-SEP-1997 at 07:07

ABC Laboratories, Inc.

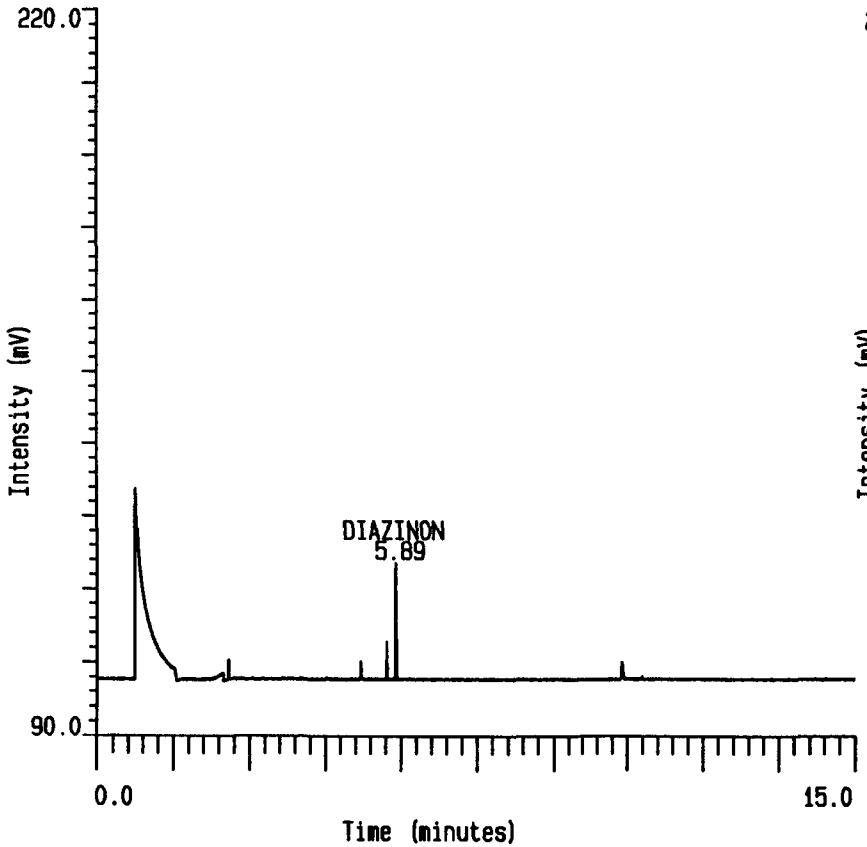
MCPP ver 2.3

43767 SHIRTS METHOD VALIDATION (THIRD SET)

Date of Report: 05 SEP 97 at 07:08:23

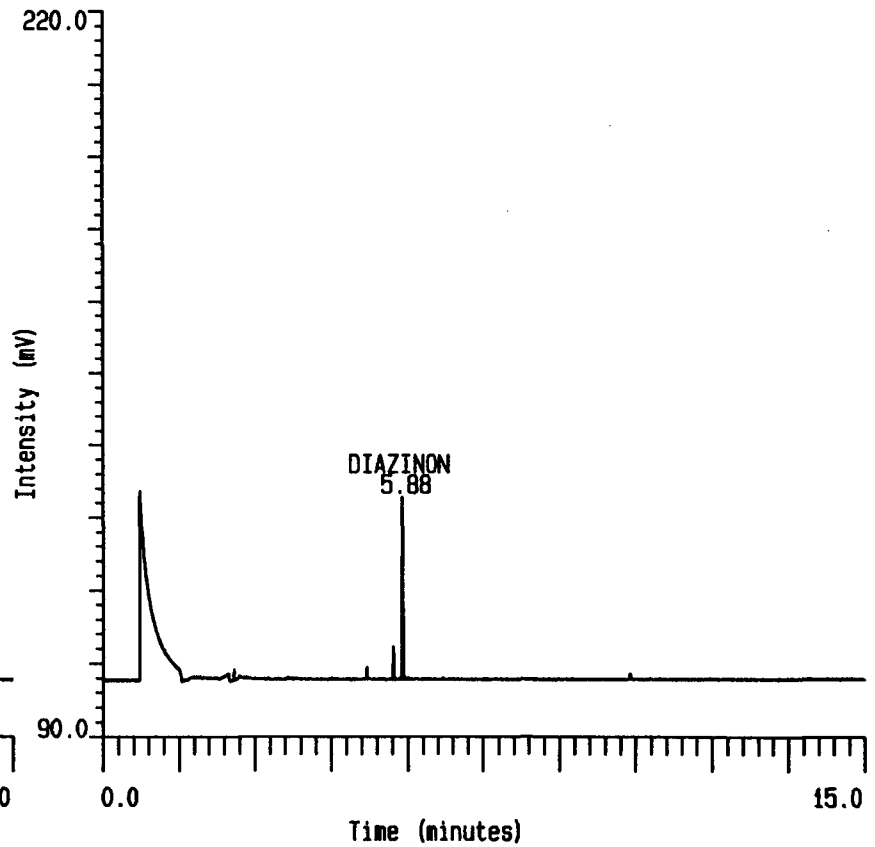
MCDO [43767] 29 SHIRTS16,1,1
EQUILIBRATION
Acquired on 4-Sep-1997 at 16:23

Peak Name	RT (mins)	Height	ng/mL or ug
DIAZINON	5.89	20709	21.00309
MALATHION	0.00	0	0



MCDO [43767] 29 SHIRTS16,2,1
EQUILIBRATION
Acquired on 4-Sep-1997 at 16:43

Peak Name	RT (mins)	Height	ng/mL or ug
DIAZINON	5.88	32590	33.19246
MALATHION	0.00	0	0



ABC Laboratories, Inc.

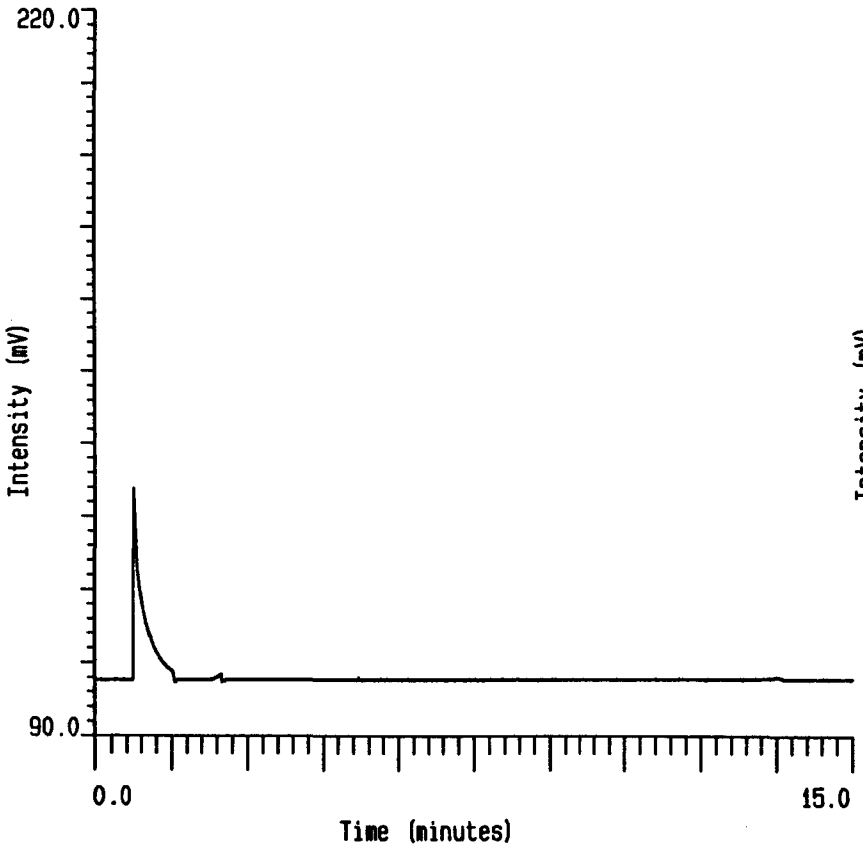
MCPP ver 2.3

43767 SHIRTS METHOD VALIDATION (THIRD SET)

Date of Report: 05 SEP 97 at 07:08:23

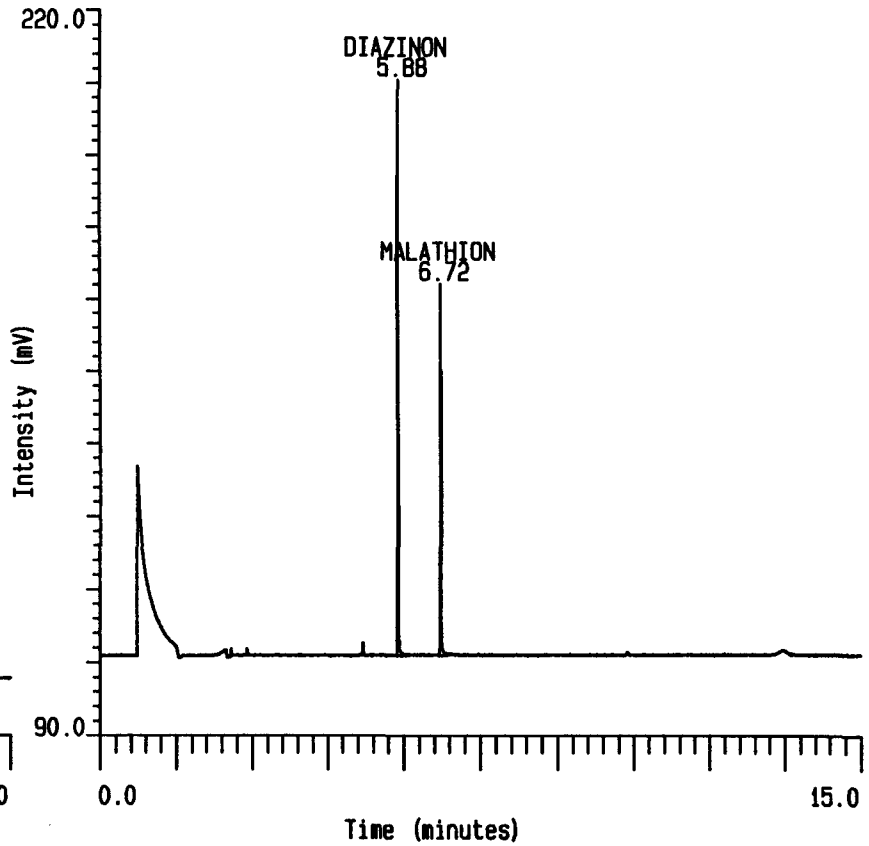
MCDO [43767] 29 SHIRTS16,3,1
SOLVENT BLANK
Acquired on 4-Sep-1997 at 17:03

Peak Name	RT (mins)	Height	ng/mL or ug
DIAZINON	0.00	0	0
MALATHION	0.00	0	0



MCDO [43767] 29 SHIRTS16,4,1
GCMIX-G2 100 NG/ML STD
Acquired on 4-Sep-1997 at 17:23

Peak Name	RT (mins)	Height	ng/mL or ug
DIAZINON	5.88	103382	105.82325
MALATHION	6.72	66464	103.85123



ABC Laboratories, Inc.

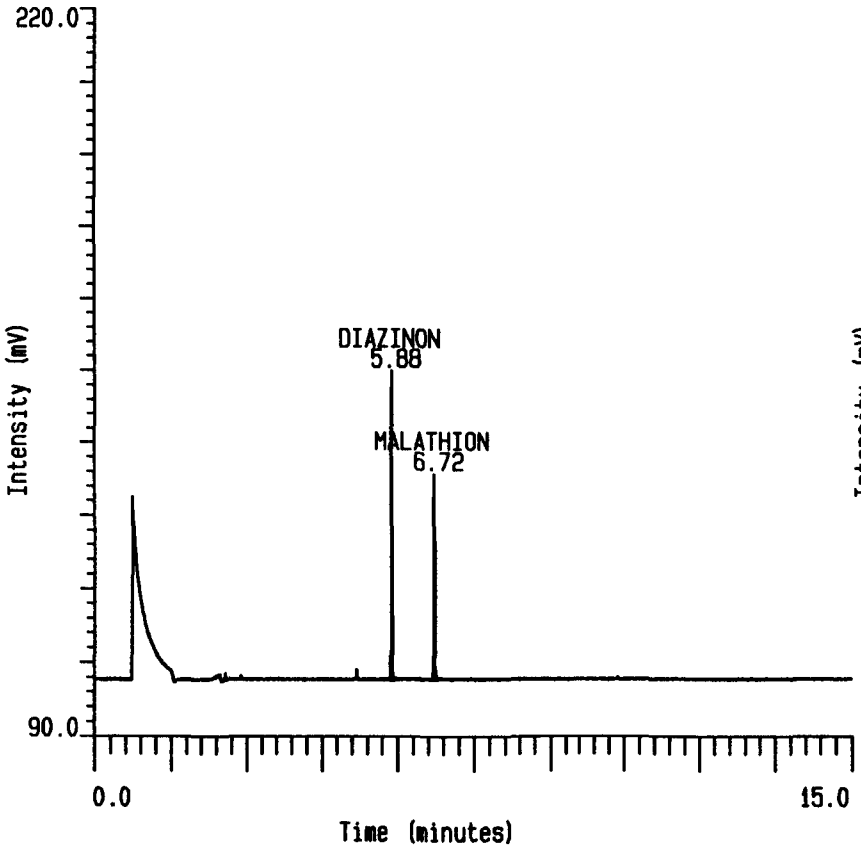
MCPP ver 2.3

43767 SHIRTS METHOD VALIDATION (THIRD SET)

Date of Report: 05 SEP 97 at 07:08:23

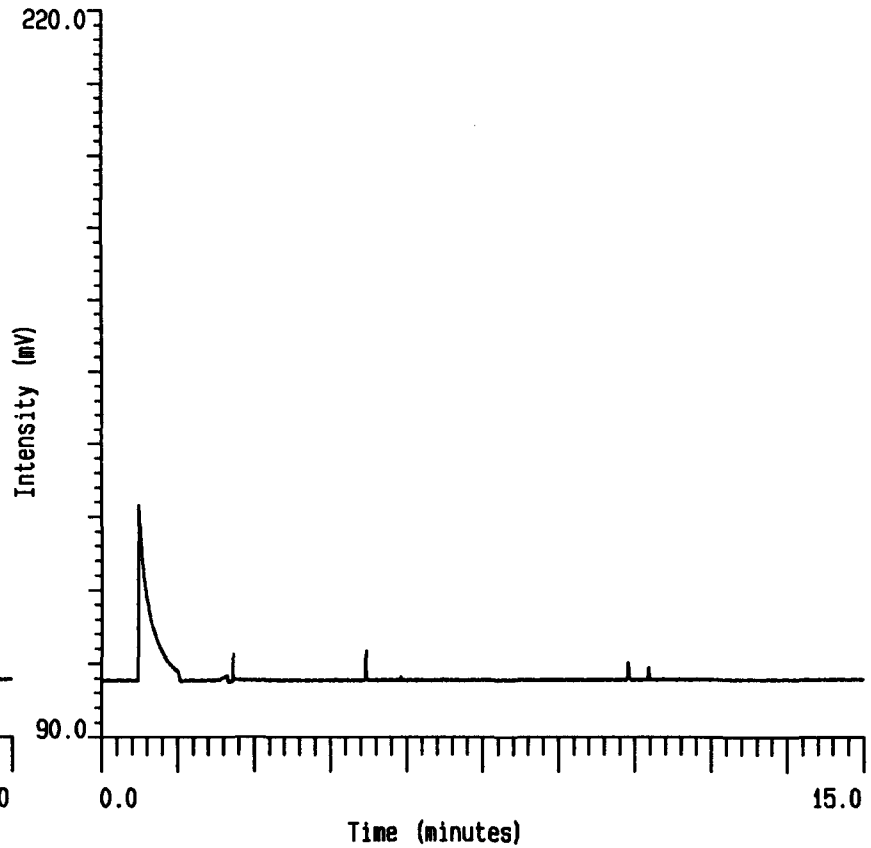
MCDO [43767] 29 SHIRTS16,5,1
GCMIX-G3 60.0 NG/ML STD
Acquired on 4-Sep-1997 at 17:43

Peak Name	RT (mins)	Height	ng/mL or ug
DIAZINON	5.88	55042	56.22749
MALATHION	6.72	36466	56.61256



MCDO [43767] 29 SHIRTS16,6,1
43767-140
Acquired on 4-Sep-1997 at 18:03

Peak Name	RT (mins)	Height	ng/mL or ug
DIAZINON	0.00	0	0
MALATHION	0.00	0	0



ABC Laboratories, Inc.

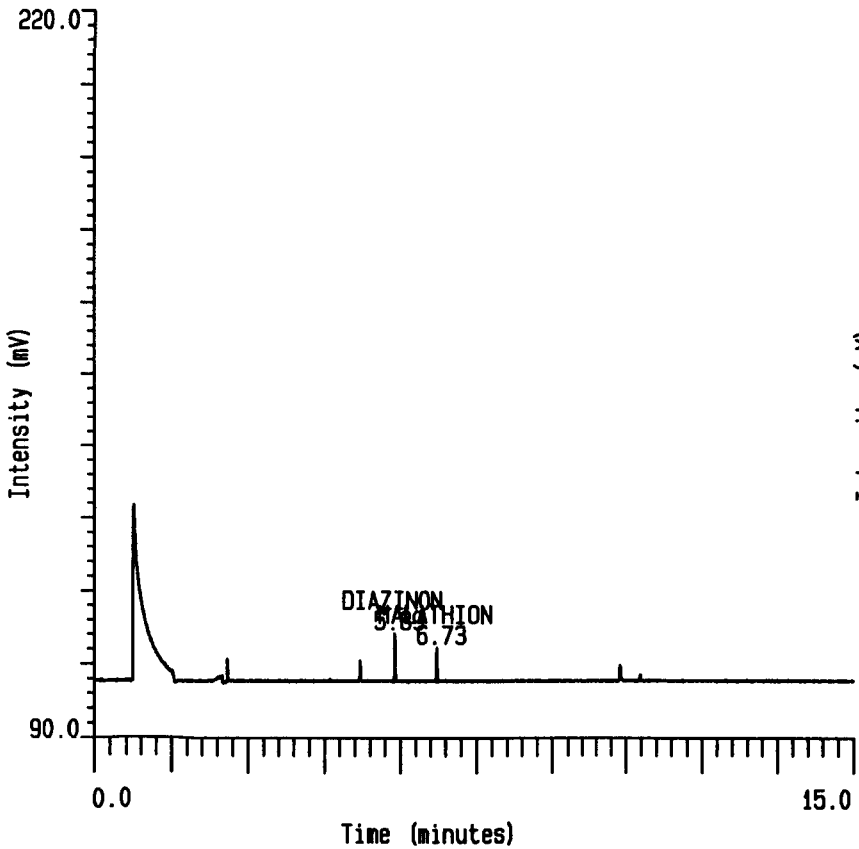
MCPP ver 2.3

43767 SHIRTS METHOD VALIDATION (THIRD SET)

Date of Report: 05 SEP 97 at 07:08:23

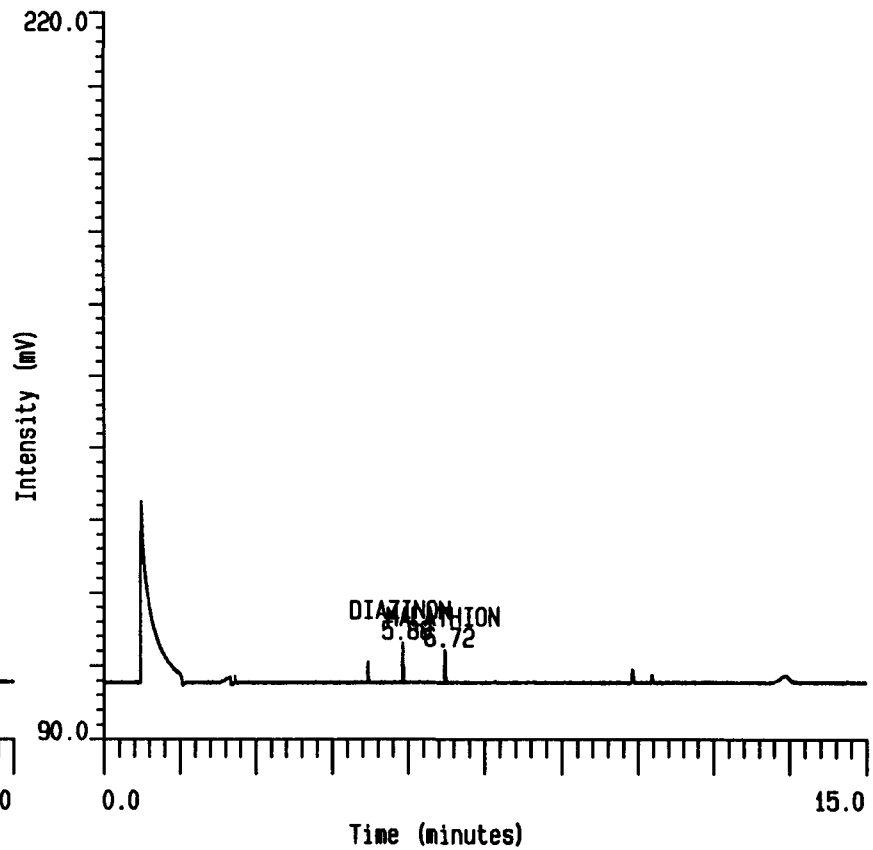
MCDO [43767] 29 SHIRTS16,7,1
43767-141
Acquired on 4-Sep-1997 at 18:24

Peak Name	RT (mins)	Height	ng/mL or ug
DIAZINON	5.89	8488	5.07866
MALATHION	6.73	5966	5.14969



MCDO [43767] 29 SHIRTS16,8,1
43767-142
Acquired on 4-Sep-1997 at 18:44

Peak Name	RT (mins)	Height	ng/mL or ug
DIAZINON	5.88	7074	4.20856
MALATHION	6.72	5844	5.03431



ABC Laboratories, Inc.

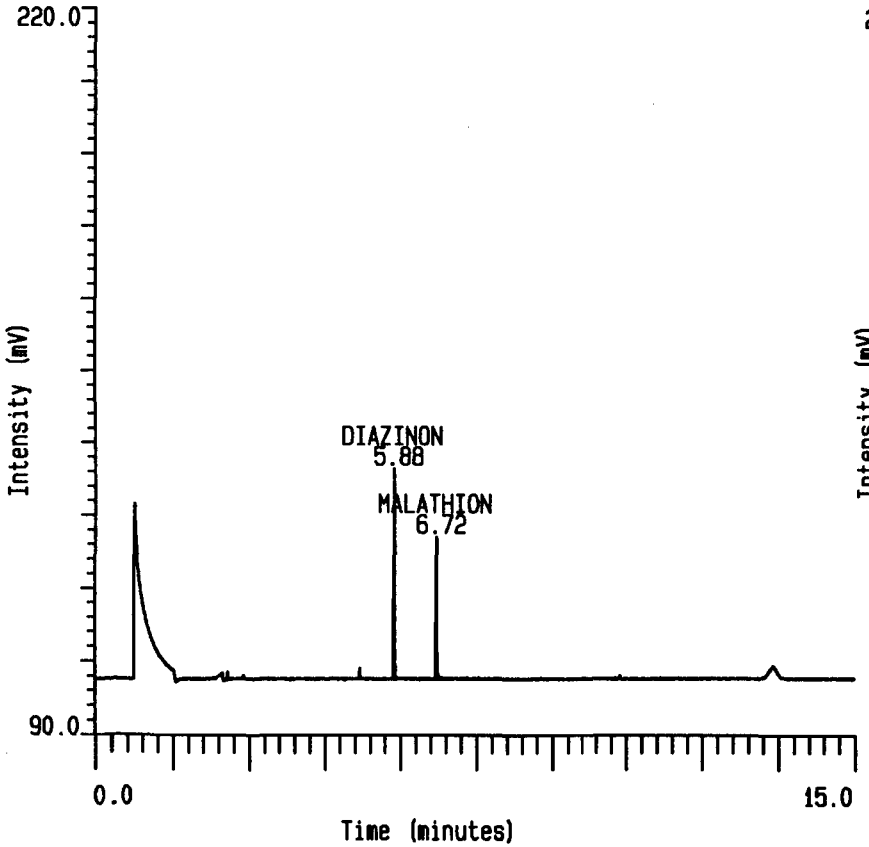
MCPP ver 2.3

43767 SHIRTS METHOD VALIDATION (THIRD SET)

Date of Report: 05 SEP 97 at 07:08:23

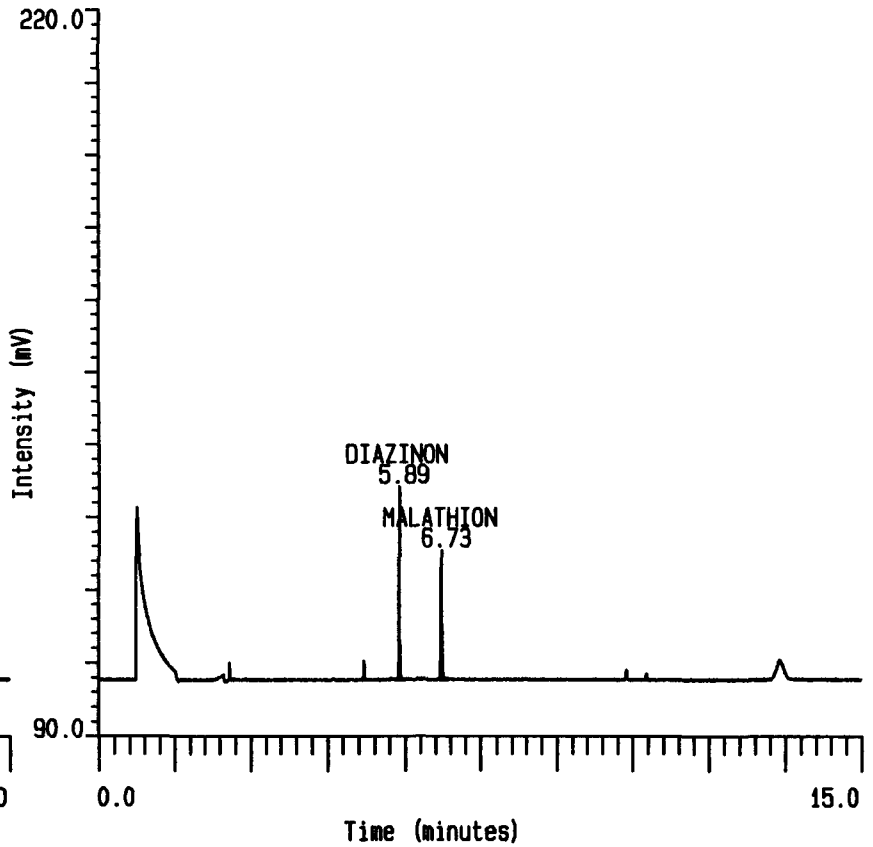
MCDO [43767] 29 SHIRTS16, 9, 1
GCMIX-G4 40.0 NG/ML STD
Acquired on 4-Sep-1997 at 19:04

Peak Name	RT (mins)	Height	ng/mL or ug
DIAZINON	5.88	37614	38.34644
MALATHION	6.72	25408	39.19811



MCDO [43767] 29 SHIRTS16, 10, 1
43767-143
Acquired on 4-Sep-1997 at 19:24

Peak Name	RT (mins)	Height	ng/mL or ug
DIAZINON	5.89	34561	42.25714
MALATHION	6.73	23173	42.81533



ABC Laboratories, Inc.

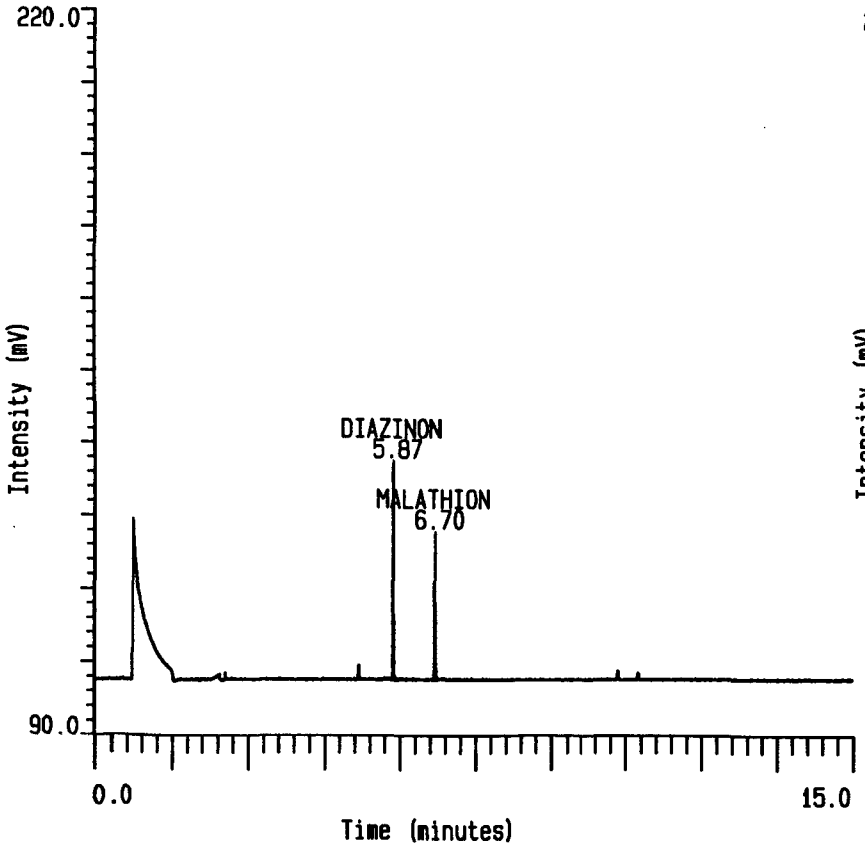
MCPP ver 2.3

43767 SHIRTS METHOD VALIDATION (THIRD SET)

Date of Report: 05 SEP 97 at 07:08:23

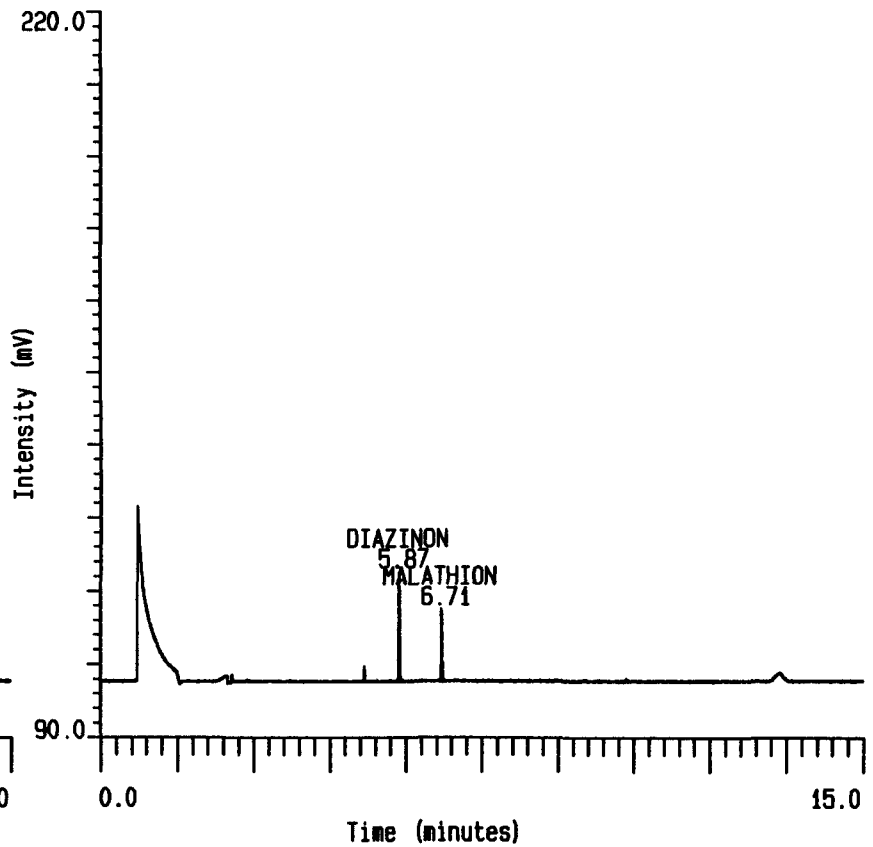
MCDO [43767] 29 SHIRTS16, 11, 1
43767-144
Acquired on 4-Sep-1997 at 19:44

Peak Name	RT (mins)	Height	ng/mL or ug
DIAZINON	5.87	38889	47.58548
MALATHION	6.70	26241	48.61340



MCDO [43767] 29 SHIRTS16, 12, 1
GCMIX-G5 20.0 NG/ML STD
Acquired on 4-Sep-1997 at 20:05

Peak Name	RT (mins)	Height	ng/mL or ug
DIAZINON	5.87	19652	19.91831
MALATHION	6.71	12904	19.50835



ABC Laboratories, Inc.

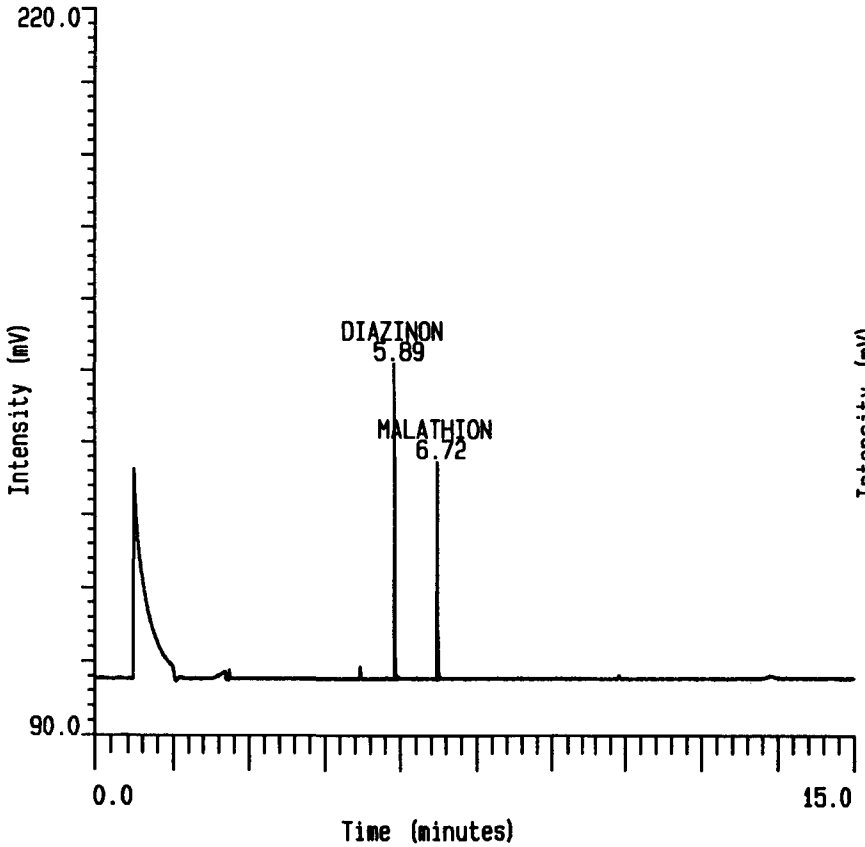
MCPP ver 2.3

43767 SHIRTS METHOD VALIDATION (THIRD SET)

Date of Report: 05 SEP 97 at 07:08:23

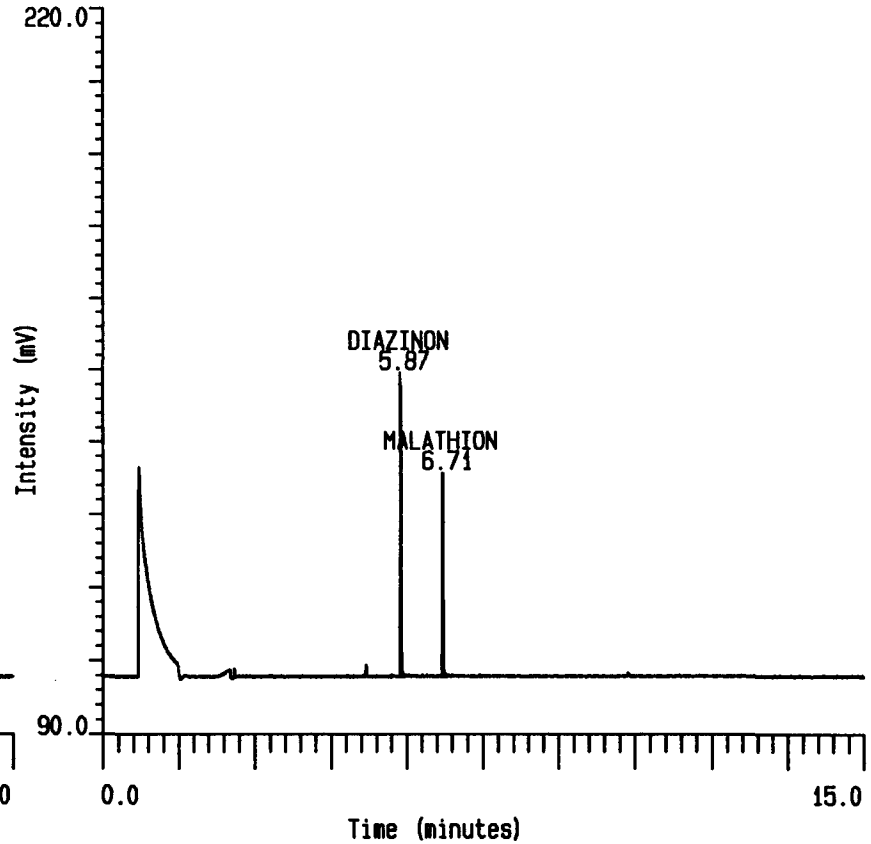
MCDO [43767] 29 SHIRTS16, 13, 1
43767-145
Acquired on 4-Sep-1997 at 20:25

Peak Name	RT (mins)	Height	ng/mL or ug
DIAZINON	5.89	56472	13413.94043
MALATHION	6.72	38705	13982.02441



MCDO [43767] 29 SHIRTS16, 14, 1
43767-146
Acquired on 4-Sep-1997 at 20:45

Peak Name	RT (mins)	Height	ng/mL or ug
DIAZINON	5.87	54315	12899.41016
MALATHION	6.71	36248	13082.40723



ABC Laboratories, Inc.

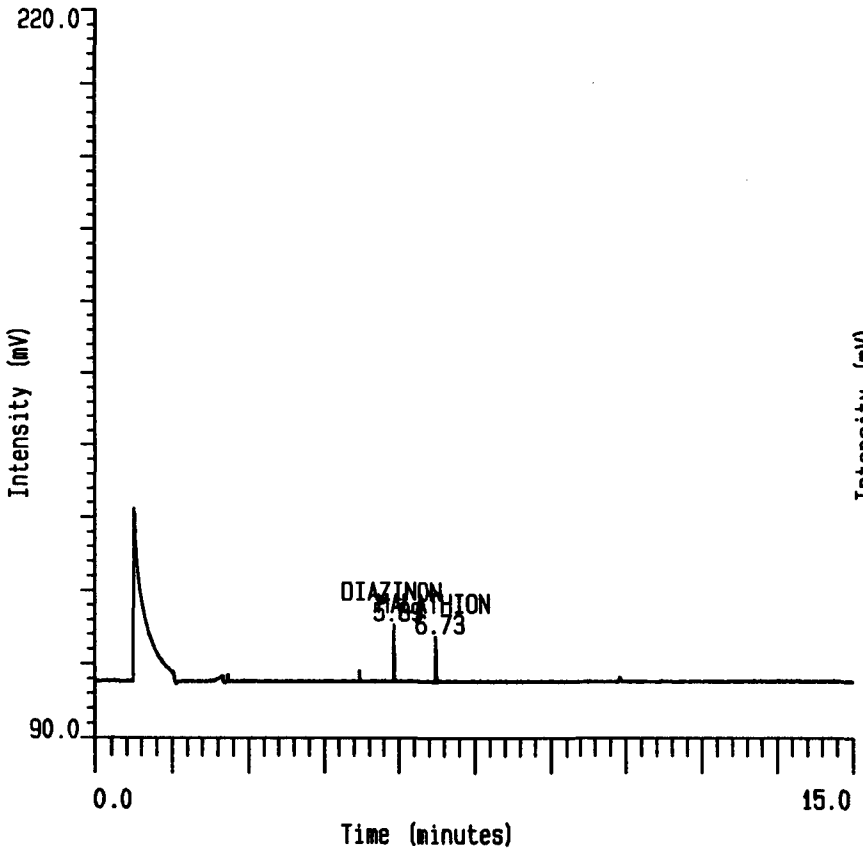
MCPP ver 2.3

43767 SHIRTS METHOD VALIDATION (THIRD SET)

Date of Report: 05 SEP 97 at 07:08:23

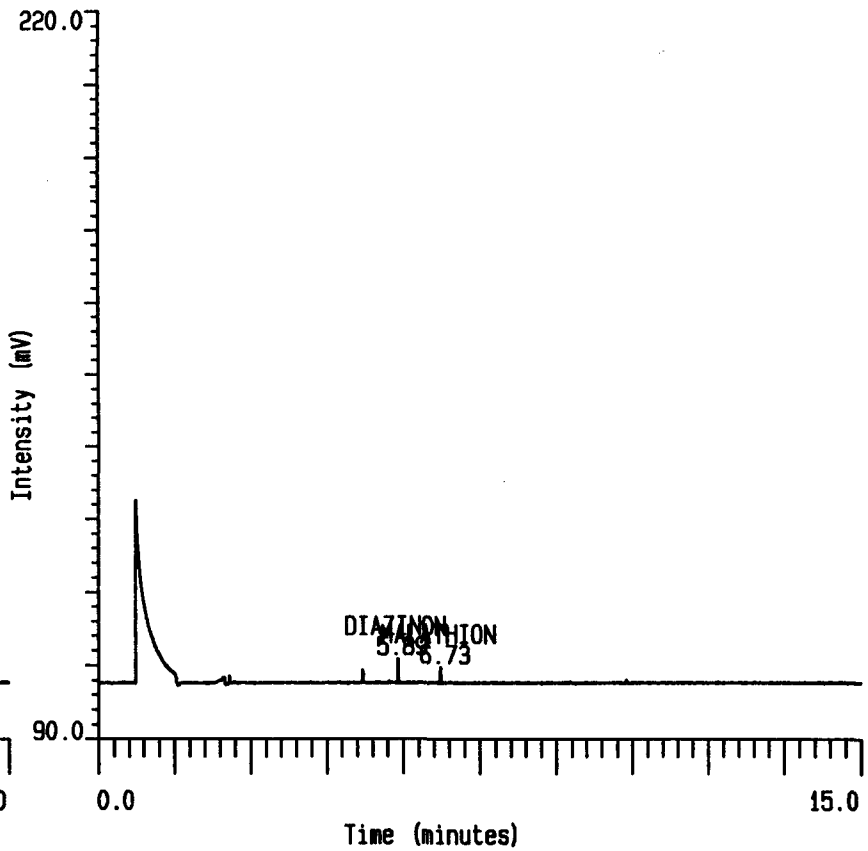
MCDO [43767] 29 SHIRTS16, 15, 1
GCMIX-G6 10.0 NG/ML STD
Acquired on 4-Sep-1997 at 21:05

Peak Name	RT (mins)	Height	ng/mL or ug
DIAZINON	5.89	10116	10.13469
MALATHION	6.73	8046	11.85731



MCDO [43767] 29 SHIRTS16, 16, 1
GCMIX-H7 4.00 NG/ML STD
Acquired on 4-Sep-1997 at 21:25

Peak Name	RT (mins)	Height	ng/mL or ug
DIAZINON	5.89	4335	4.20382
MALATHION	6.73	2829	3.64283



[43767] 29 SHIRTS16 Page 1
Reported on 16-SEP-1997 at 14:57
Modified on 5-SEP-1997 at 06:54

List Calibration File

CALIBRATION HEADER INFORMATION

Calibration Title : 43767 METHOD VALIDATION (THIRD SET)
General :
Calibration type..... External standard
Units..... ng/mL or ug
Calibration base..... Height
Reference Peak Identification :
Reference window..... 5.0 %
Minimum window..... 0.50 mins
Peak threshold..... 0.0 %
Uncalibrated Peaks Response Factor :
Response factor source..... User set response factor
Response factor..... 0.0000
Additional Information :
Source library..... None
Initialise on 1st standard..... No
Variation tolerance..... 100.00 %
Calibrant Peak Identification :
Calibrant window..... 0.15 mins
Calibrant threshold..... 0.0 %
Response Factor Calibration Curve :
Curve fit..... Linear
Force through zero..... No
X transformation..... None
Y transformation..... None
Weighting..... 1 / Y
Retention Value Calibration Curve :
Curve fit..... Linear
Force through zero..... No
X transformation..... None
Y transformation..... None
Weighting..... None
Timed Calibration Curve :
Curve fit..... Linear
Force through zero..... No
X transformation..... None
Y transformation..... None
Weighting..... None
No group information entered.

[43767] 29 SHIRTS16 Page 2
Reported on 16-SEP-1997 at 14:57
Modified on 5-SEP-1997 at 06:54

Peak name : DIAZINON
Expected retention time : 5.88 mins (RT range : 5.81 - 5.95 mins)
Peak window mode..... Global
Group name identifier..... ----
Peak identification mode..... Largest
Must peak..... No
Reference peak..... No
Dilution peak..... No
Retention standard..... No
Response factor mode..... Internal Levels
Purity..... 100.0000

Calibration level	Standard amount	Response factor	Calibration count
06	4.0000	1083.7708	1
05	10.0000	1011.5840	1
04	20.0000	982.5911	1
03	40.0000	940.3376	1
02	60.0000	917.3660	1
01	100.0000	1033.8239	1

Peak name : MALATHION
Expected retention time : 6.72 mins (RT range : 6.64 - 6.79 mins)
Peak window mode..... Global
Group name identifier..... ----
Peak identification mode..... Largest
Must peak..... No
Reference peak..... No
Dilution peak..... No
Retention standard..... No
Response factor mode..... Internal Levels
Purity..... 100.0000

Calibration level	Standard amount	Response factor	Calibration count
06	4.0000	707.3414	1
05	10.0000	804.5726	1
04	20.0000	645.2143	1
03	40.0000	635.1918	1
02	60.0000	607.7699	1
01	100.0000	664.6369	1

Observations and Remarks	
Test Material: Diazinon and Malathion Study Sponsor: ARTF Matrices: Various Study Number: 43767	Form AC72A (5/4/93) ABC Laboratories, Inc. 7200 E. ABC Lane Columbia, MO 65202
	Study Director: Loren C. Schrier

5 Sept 97 LC

COMMENTS

Raw extract
43767-145
" -146

$\frac{10000\ \mu g}{2500\ mL} = 4\ \mu g/mL$

Diluted 1.00 mL ea to 100 mL (volumetric) with 1.5% Degdee in water.

0.01% AOT soln
43767-145
" -145

$\frac{10000\ \mu g}{2500\ mL} * \frac{25\ mL}{15\ mL} = 6.67\ \mu g/mL$

Diluted 1.00 mL ea to 100 mL as described above.

Entered by: LC Date: 5 Sept 97

Checked by: Barbara J. Bryant Date: 23 Sep 97

Approved by: LC Date: 14 Oct 97

[43767] 29 SHIRTS17 Page 1
Reported on 5-SEP-1997 at 16:28
Modified on 5-SEP-1997 at 10:10

List Run Sequence File

ANALYST NAME..... LOREN C. SCHRIER
43767 SHIRTS METHOD VALIDATION THIRD SET TROUBLESHOOT

ANALYSIS INFORMATION

Analysis name..... SHIRTS17
Method name..... SHIRTS17
Calibration name..... SHIRTS17
Calibration sequence..... Average Standard
User parameter 1 name..... FINAL VOLUME (ML)
User parameter 2 name..... FACTOR 1
User parameter 3 name..... FACTOR 2

SAMPLE SUMMARY

SAMPLE NUMBER	LIMS ID	SAMPLE NAME
1	----------	EQUILIBRATION
2	----------	EQUILIBRATION
3	----------	SOLVENT BLANK
4	----------	GCMIX-G2 100 NG/ML STD
5	----------	GCMIX-G3 60.0 NG/ML STD
6	----------	43767-145 RAW EXTRACT 40.0 NG/ML THEOR
7	----------	43767-145 AOT EXTRACT 66.7 NG/ML THEOR
8	----------	43767-145 FINAL REINJ 10000 UG THEOR
9	----------	GCMIX-G4 40.0 NG/ML STD
10	----------	43767-146 RAW EXTRACT 40.0 NG/ML THEOR
11	----------	43767-146 AOT EXTRACT 66.7 NG/ML THEOR
12	----------	43767-146 FINAL REINJ 10000 UG THEOR
13	----------	GCMIX-G5 20.0 NG/ML STD
14	----------	GCMIX-G6 10.0 NG/ML STD
15	----------	GCMIX-H7 4.00 NG/ML STD

[43767] 29 SHIRTS17 Page 2
Reported on 5-SEP-1997 at 16:28
Modified on 5-SEP-1997 at 10:10

SAMPLE INFORMATION

SAMPLE NUMBER	TYPE	CALIB LEVEL	UPDATE RT	UPDATE RF	AMOUNT	NUM INJ	BOT NUM
1	Sa	--	-	-	1.00000	1	1
2	Sa	--	-	-	1.00000	1	2
3	Sa	--	-	-	1.00000	1	3
4	St	01	N	I	1.00000	1	4
5	St	02	N	I	1.00000	1	5
6	Sa	--	-	-	1.00000	1	7
7	Sa	--	-	-	1.00000	1	7
8	Sa	--	-	-	1.00000	1	7
9	St	03	N	I	1.00000	1	9
10	Sa	--	-	-	1.00000	1	7
11	Sa	--	-	-	1.00000	1	7
12	Sa	--	-	-	1.00000	1	14
13	St	04	N	I	1.00000	1	15
14	St	05	N	I	1.00000	1	15
15	St	06	N	I	1.00000	1	16

USER PARAMETER VALUES

SAMPLE	FINAL VOLUME (ML)	FACTOR 1	FACTOR 2
1	1.00000	1.00000	1.00000
2	1.00000	1.00000	1.00000
3	2.00000	37500.00000	125000.00000
4	1.00000	1.00000	1.00000
5	1.00000	1.00000	1.00000
6	1.00000	1.00000	1.00000
7	1.00000	1.00000	1.00000
8	25.00000	581250.00000	62500.00000
9	1.00000	1.00000	1.00000
10	1.00000	1.00000	1.00000
11	1.00000	1.00000	1.00000
12	25.00000	581250.00000	62500.00000
13	1.00000	1.00000	1.00000
14	1.00000	1.00000	1.00000
15	1.00000	1.00000	1.00000

[43767] 29 SHIRTS17 Page 3
Reported on 5-SEP-1997 at 16:28
Modified on 5-SEP-1997 at 10:10

INTERNAL/DILUTION STANDARDS

SAMPLE NUMBER	ISTD1 AMOUNT	ISTD2 AMOUNT	ISTD3 AMOUNT	DIL1 AMOUNT	DIL2 AMOUNT
1	1.00000	1.00000	1.00000	1.00000	1.00000
2	1.00000	1.00000	1.00000	1.00000	1.00000
3	1.00000	1.00000	1.00000	1.00000	1.00000
4	1.00000	1.00000	1.00000	1.00000	1.00000
5	1.00000	1.00000	1.00000	1.00000	1.00000
6	1.00000	1.00000	1.00000	1.00000	1.00000
7	1.00000	1.00000	1.00000	1.00000	1.00000
8	1.00000	1.00000	1.00000	1.00000	1.00000
9	1.00000	1.00000	1.00000	1.00000	1.00000
10	1.00000	1.00000	1.00000	1.00000	1.00000
11	1.00000	1.00000	1.00000	1.00000	1.00000
12	1.00000	1.00000	1.00000	1.00000	1.00000
13	1.00000	1.00000	1.00000	1.00000	1.00000
14	1.00000	1.00000	1.00000	1.00000	1.00000
15	1.00000	1.00000	1.00000	1.00000	1.00000

PROCESSING ORDER

SAMPLE NUMBER	TYPE
4	Standard
5	Standard
9	Standard
13	Standard
14	Standard
15	Standard
1	Sample
2	Sample
3	Sample
6	Sample
7	Sample
8	Sample
10	Sample
11	Sample
12	Sample

Gas Chromatographic Instrument Parameters Form

ABC Laboratory Study Number: 43767
Customer Identification: ARTF

Instrument: HP 5890 Series II Material ID# 1652-0120
Autoinjector: HP 7673B Material ID# 1625-802A

Column: HP-5MS, 30 M X 0.25 mm, 0.25 μm film thickness
Serial#: 57105214

Detector Type: FPD/P

Electrometer: Range 4

Temperatures:
- Injector (°C): 230
- Detector (°C): 230
- Column:
  - Initial Temp.(°C): 95
  - Initial Time: 1.0 min.
  - Program Rate 1: 30 °C/min to 230 °C, hold 4 min
  - Program Rate 2: 40 °C/min to 290 °C, hold 4 min

Carrier Gas Flow Rate:	He	1.6 mL/min
Septum Purge:	He	2.0 mL/min
Make Up Gas:	N_2	21 mL/min
Air Flow Rate:		98 mL/min.
Hydrogen Flow Rate:		69 mL/min.
Purge Valve:	Off at 0 min, on at 0.75 min	

Injection Volume: 2 μL

Run Sequence File: SHIRTS17

Quantitation Standards: GCmix - G2 → ~~G7~~ G6, H7 (1)

(1) Entry Error 5-Sept-97

Prepared By: [signature] Date: 5 Sept 97

Checked By: Barbara J. Bryant Date: 23 Sep 97

MCDO [43767] 29 SHIRTS17

ABC Laboratories, Inc.
Sample Information Report ver 3.3

Report Date: 05 SEP 97 at 16:35:04
Page 1

Sample Name	No.	Type	Level	User Parameter 1 FINAL VOLUME (ML)	User Parameter 2 FACTOR 1	User Parameter 3 FACTOR 2
EQUILIBRATION	1	SA		1.00000	1.00000	1.00000
EQUILIBRATION	2	SA		1.00000	1.00000	1.00000
SOLVENT BLANK	3	SA		2.00000	37500.00000	125000.00000
GCMIX-G2 100 NG/ML STD	4	ST	01	1.00000	1.00000	1.00000
GCMIX-G3 60.0 NG/ML STD	5	ST	02	1.00000	1.00000	1.00000
43767-145 RAW EXTRACT 40.0 NG/ML THEOR	6	SA		1.00000	1.00000	1.00000
43767-145 AOT EXTRACT 66.7 NG/ML THEOR	7	SA		1.00000	1.00000	1.00000
43767-145 FINAL REINJ 10000 UG THEOR	8	SA		25.00000	581250.00000	62500.00000
GCMIX-G4 40.0 NG/ML STD	9	ST	03	1.00000	1.00000	1.00000
43767-146 RAW EXTRACT 40.0 NG/ML THEOR	10	SA		1.00000	1.00000	1.00000
43767-146 AOT EXTRACT 66.7 NG/ML THEOR	11	SA		1.00000	1.00000	1.00000
43767-146 FINAL REINJ 10000 UG THEOR	12	SA		25.00000	581250.00000	62500.00000
GCMIX-G5 20.0 NG/ML STD	13	ST	04	1.00000	1.00000	1.00000
GCMIX-G6 10.0 NG/ML STD	14	ST	05	1.00000	1.00000	1.00000
GCMIX-H7 4.00 NG/ML STD	15	ST	06	1.00000	1.00000	1.00000

MCDO [43767] 29 SHIRTS17

ABC Laboratories, Inc.
Results Information Report ver 3.3
Component Name: DIAZINON

Report Date: 05 SEP 97
Time: 16:35:04
Page: 1

Sample Name	SMP #	INJ #	RT(mins)	Height	ng/mL or ug	CAL. RANG	Peak Type	Bad INJ
EQUILIBRATION	1	1	5.88	38217	38.91909		OBF	---
EQUILIBRATION	2	1	5.89	36867	37.54682		O	---
SOLVENT BLANK	3	1	0.00	0	0.00000	UNDR	OB	---
GCMIX-G2 100 NG/ML STD	4	1	5.89	99360	101.10185		OB	---
GCMIX-G3 60.0 NG/ML STD	5	1	5.89	59639	60.70562		OB	---
43767-145 RAW EXTRACT 40.0 NG/ML THEOR	6	1	5.88	37068	37.75033		OB	---
43767-145 AOT EXTRACT 66.7 NG/ML THEOR	7	1	5.89	59689	60.75629		OB	---
43767-145 FINAL REINJ 10000 UG THEOR	8	1	5.88	37123	8790.14844		OBF	---
GCMIX-G4 40.0 NG/ML STD	9	1	5.88	37542	38.23278		OB	---
43767-146 RAW EXTRACT 40.0 NG/ML THEOR	10	1	5.88	38355	39.05951		OB	---
43767-146 AOT EXTRACT 66.7 NG/ML THEOR	11	1	5.89	57229	58.25479		OB	---
43767-146 FINAL REINJ 10000 UG THEOR	12	1	5.87	35140	8321.06445		OB	---
GCMIX-G5 20.0 NG/ML STD	13	1	5.88	19402	19.78392		OB	---
GCMIX-G6 10.0 NG/ML STD	14	1	5.89	10021	10.24330		OB	---
GCMIX-H7 4.00 NG/ML STD	15	1	5.88	3924	4.04320		OBF	---

43767-145 Raw Extract $\left(\frac{37.8\ ng/mL}{40.0\ ng/mL}\right) * 100 = 94.5\%$

AOT Extract $\frac{60.8}{66.7} * 100 = 91.2\%$

Final Reinj $\frac{8790\ \mu g}{10000\ \mu g} * 100 = 87.9\%$

43767-146 Raw $\frac{39.1}{40.0} * 100 = 97.8\%$

AOT Extract $\frac{58.3}{66.7} * 100 = 87.4\%$

Final Reinj ~~83.2~~ $\frac{8320\ \mu g}{10000\ \mu g} * 100 = 83.2\%$

Calcs by [illegible] 5 Sep 97

Checked by BJB 23 Sep 97

MCDO [43767] 29 SHIRTS17

ABC Laboratories, Inc.
Results Information Report ver 3.3
Component Name: MALATHION

Report Date: 05 SEP 97
Time: 16:35:04
Page: 1

Sample Name	SMP #	INJ #	RT(mins)	Height	ng/mL or ug	CAL. RANG	Peak Type	Bad INJ
EQUILIBRATION	1	1	6.72	26996	42.46839		OB	---
EQUILIBRATION	2	1	6.73	25246	39.70023		OB	---
SOLVENT BLANK	3	1	0.00	0	0.00000	UNDR	O	---
GCMIX-G2 100 NG/ML STD	4	1	6.72	62819	99.14506		OBF	---
GCMIX-G3 60.0 NG/ML STD	5	1	6.73	39000	61.45940		OB	---
43767-145 RAW EXTRACT 40.0 NG/ML THEOR	6	1	6.72	24121	37.91951		OB	---
43767-145 AOT EXTRACT 66.7 NG/ML THEOR	7	1	6.73	40265	63.46076		OB	---
43767-145 FINAL REINJ 10000 UG THEOR	8	1	6.72	26152	9563.34082		OB	---
GCMIX-G4 40.0 NG/ML STD	9	1	6.71	24324	38.24033		OB	---
43767-146 RAW EXTRACT 40.0 NG/ML THEOR	10	1	6.71	25881	40.70466		OBF	---
43767-146 AOT EXTRACT 66.7 NG/ML THEOR	11	1	6.73	36883	58.11058		OB	---
43767-146 FINAL REINJ 10000 UG THEOR	12	1	6.71	23181	8470.72656		OB	---
GCMIX-G5 20.0 NG/ML STD	13	1	6.71	12961	20.26280		OBF	---
GCMIX-G6 10.0 NG/ML STD	14	1	6.73	7680	11.90845		OB	---
GCMIX-H7 4.00 NG/ML STD	15	1	6.71	2354	3.48158		OBF	---

145 Raw $\frac{37.9}{40.0} \times 100 = 94.8\%$

AOT $\frac{63.5}{66.7} \times 100 = 95.2\%$

Final Reinj $\frac{9560}{10000} \times 100 = 95.6\%$

---

146 Raw $\frac{38.2}{40.0} \times 100 = 95.5\%$

~~147~~ ① AOT $\frac{58.1}{66.7} \times 100 = 87.1\%$

Final Reinj $\frac{8470}{10000} \times 100 = 84.7\%$

① Energy Error
[illegible] 5 Sep 97

Calc by [illegible] 5 Sep 97

Checked by BJB 23 Sep 97

Acquisition and Peak Processing Parameters Report Print Date and Time : 05 SEP 97 16:42:34
Version 2 Page : 1
MCDO [43767] 29 SHIRTS17 Based on Sample Number : 1 Injection Number : 1

ACQUISITION PARAMETERS
Data Collection :
Length of Run..... 14.99 mins
Post Injection Delay..... 0.00 mins
Sampling Rate..... 15.00 Hz
Baseline Offset :
Adjust Baseline..... Yes
Baseline Offset..... 10.00 %

PEAK PROCESSING PARAMETERS
Auto Process Parameters :
Peak Threshold..... 0.50
Baseline Test..... 4
Peak Trend..... 4
Separation Parameters :
Shoulder Sensitivity..... 0.10
Rider Sensitivity..... 0.05
Rejection Parameters :
Minimum Peak Width..... 0.00 secs
Minimum Peak Height..... 500.00 uV
Minimum Peak Area..... 1000.00 uVs
Ignore Flat Top Peak..... No
User Imposed Action Control :
Forced Baseline..... No
Suppress Integration..... Yes
Tangent Skimming..... No
Shoulder Detection..... No
Data Bunching..... No
Negative Detection..... No
Integration Modes :
Retention Time Integration..... No
Square Root Area and Height..... No

PROCESSING ACTIONS

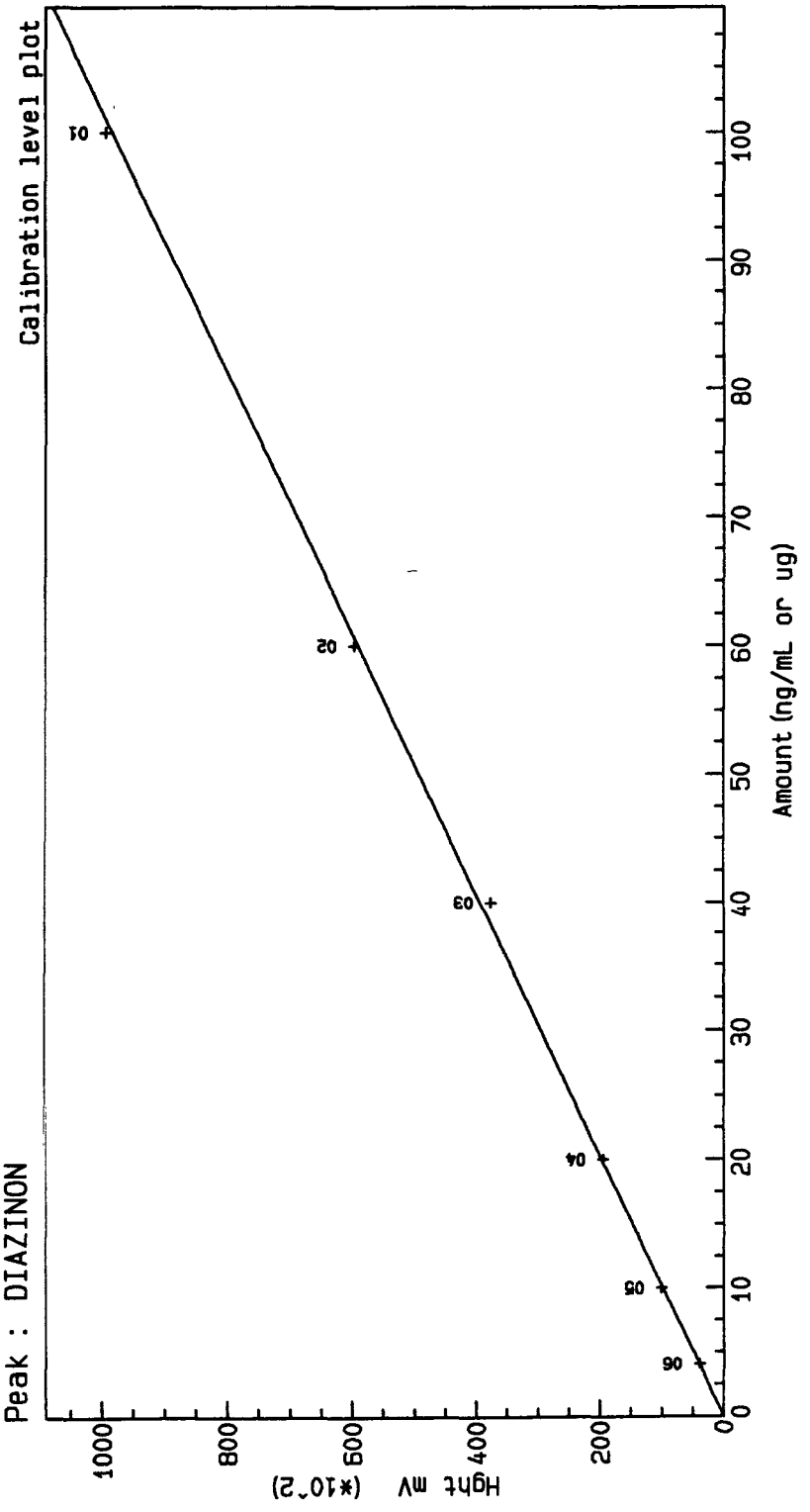
Time (mins)	Force Baseline	Integrate Suppress	Tangent Skim	Bunch Size	Shoulder Detect	Negative Detect
0.00	--	SI	_	0	--	--
5.50	--	ES	_	0	--	--
7.50	--	SI	_	0	--	--

Calibration last modified on 5-Sep-1997 at 16:32
Calibration Sequence..... AVERAGE

These parameters apply to all injections of set SHIRTS17 with no exceptions

ABC Laboratories, Inc. Multichrom ver 1.8-2

Calibration Name : 29 SHIRTS17.
43767 METHOD VALIDATION THIRD SET TROUBLESHOOT
Peak : DIAZINON



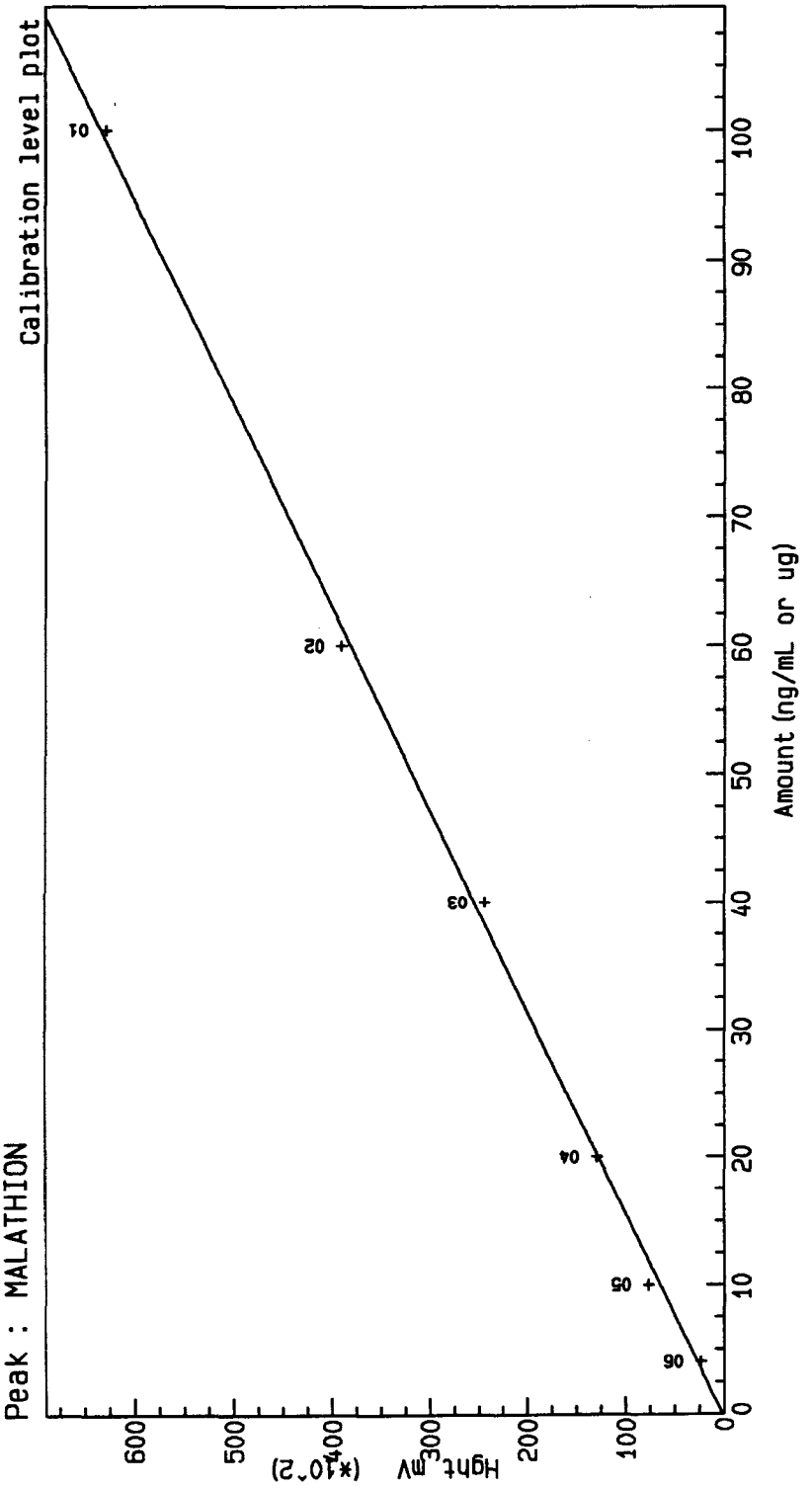
Constant : -5.148804E+1
1st degree : 9.83277E+2

Curve fit : Linear
Correlation coefficient : 0.99963
Standard error : 1.09303E+3

Reported on 5-SEP-1997 at 16:43

ABC Laboratories, Inc. Multichrom ver 1.8-2

Calibration Name : 29 SHIRTS17.
43767 METHOD VALIDATION THIRD SET TROUBLESHOOT
Peak : MALATHION



Constant : 1.53414E+2
1st degree : 6.32062E+2

Curve fit : Linear
Correlation coefficient : 0.99923
Standard error : 9.96235E+2

Reported on 5-SEP-1997 at 16:43

ABC Laboratories, Inc.

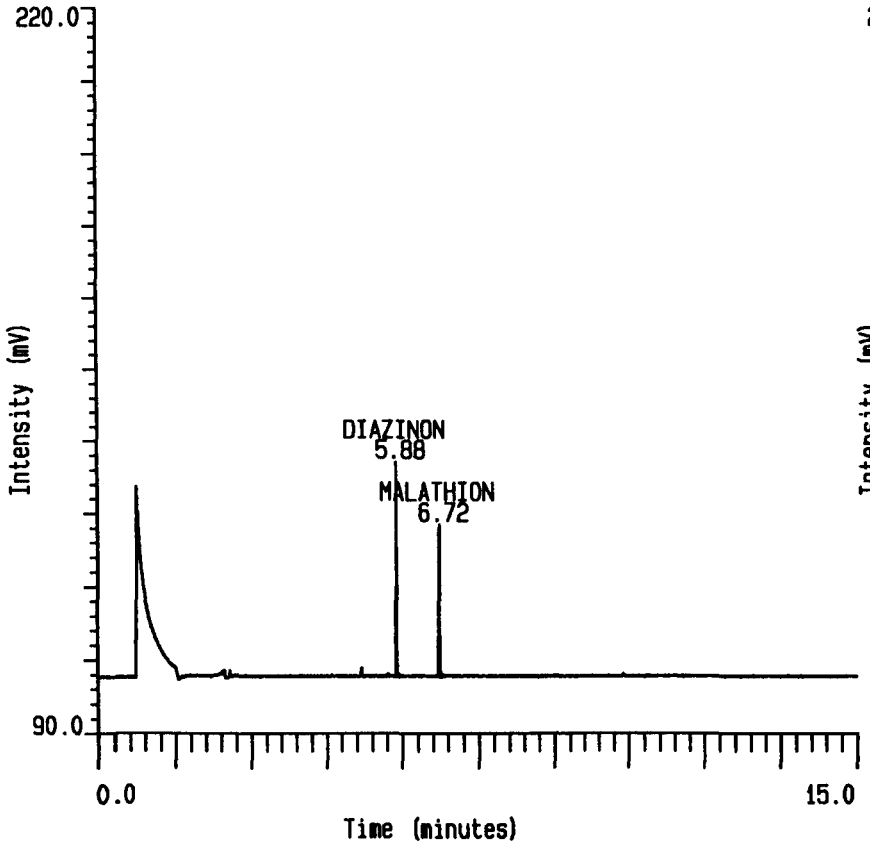
MCPP ver 2.3

43767 SHIRTS METHOD VALIDATION THIRD SET TROUBLESHOOT

Date of Report: 05 SEP 97 at 16:44:01

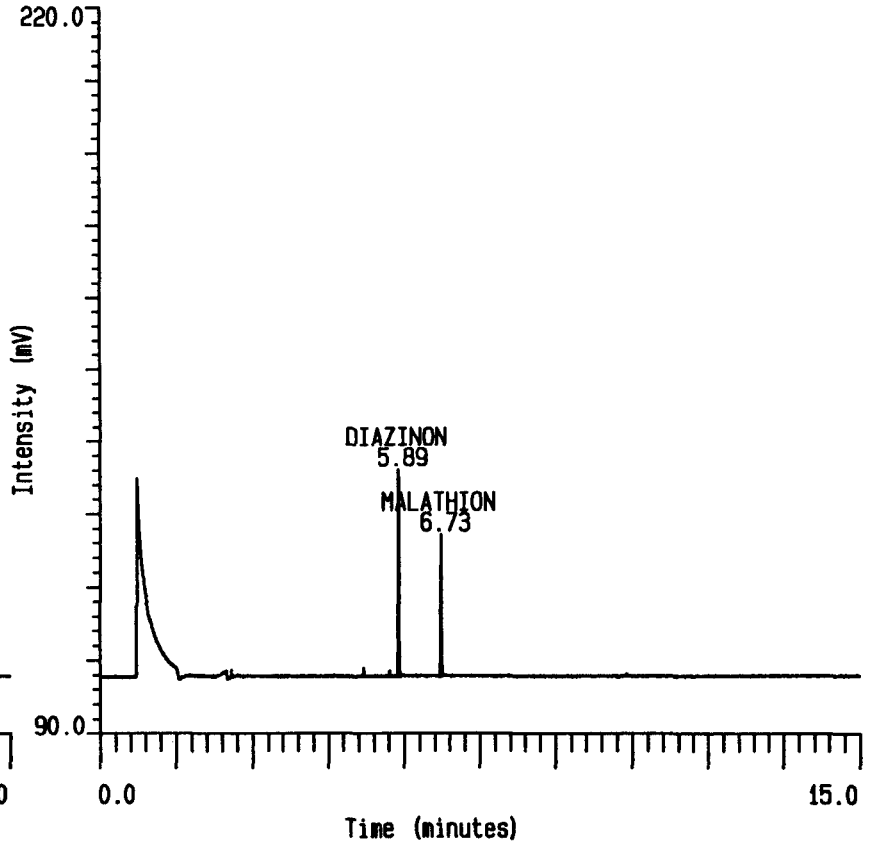
MCDO [43767] 29 SHIRTS17, 1, 1
EQUILIBRATION
Acquired on 5-Sep-1997 at 10:18

Peak Name	RT (mins)	Height	ng/mL or ug
DIAZINON	5.88	38217	38.91909
MALATHION	6.72	26996	42.46839



MCDO [43767] 29 SHIRTS17, 2, 1
EQUILIBRATION
Acquired on 5-Sep-1997 at 10:38

Peak Name	RT (mins)	Height	ng/mL or ug
DIAZINON	5.89	36867	37.54682
MALATHION	6.73	25246	39.70023



ABC Laboratories, Inc.

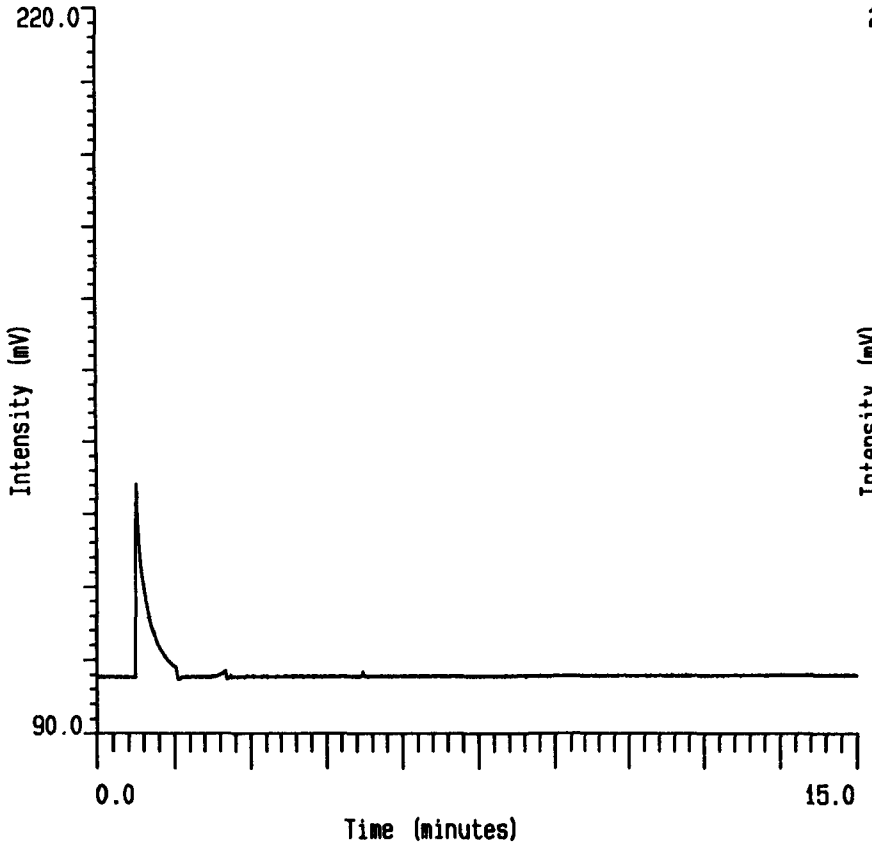
MCPP ver 2.3

43767 SHIRTS METHOD VALIDATION THIRD SET TROUBLESHOOT

Date of Report: 05 SEP 97 at 16:44:01

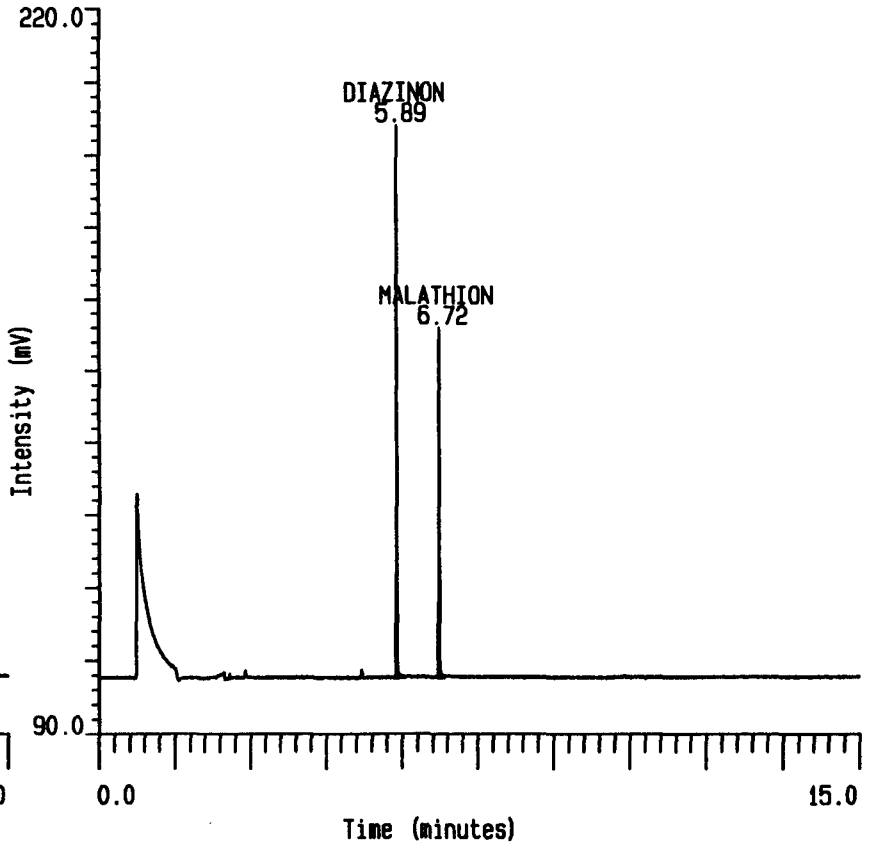
MCDO [43767] 29 SHIRTS17,3,1
SOLVENT BLANK
Acquired on 5-Sep-1997 at 10:58

Peak Name	RT (mins)	Height	ng/mL or ug
DIAZINON	0.00	0	0
MALATHION	0.00	0	0



MCDO [43767] 29 SHIRTS17,4,1
GCMIX-G2 100 NG/ML STD
Acquired on 5-Sep-1997 at 11:18

Peak Name	RT (mins)	Height	ng/mL or ug
DIAZINON	5.89	99360	101.10185
MALATHION	6.72	62819	99.14506



ABC Laboratories, Inc.

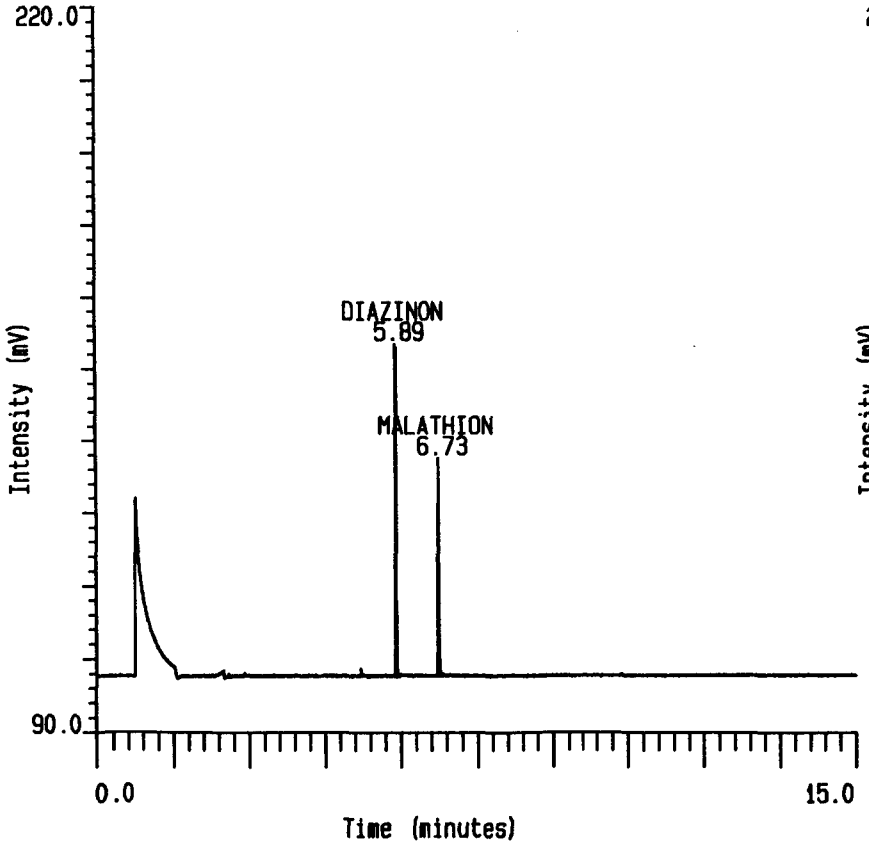
MCPP ver 2.3

43767 SHIRTS METHOD VALIDATION THIRD SET TROUBLESHOOT

Date of Report: 05 SEP 97 at 16:44:01

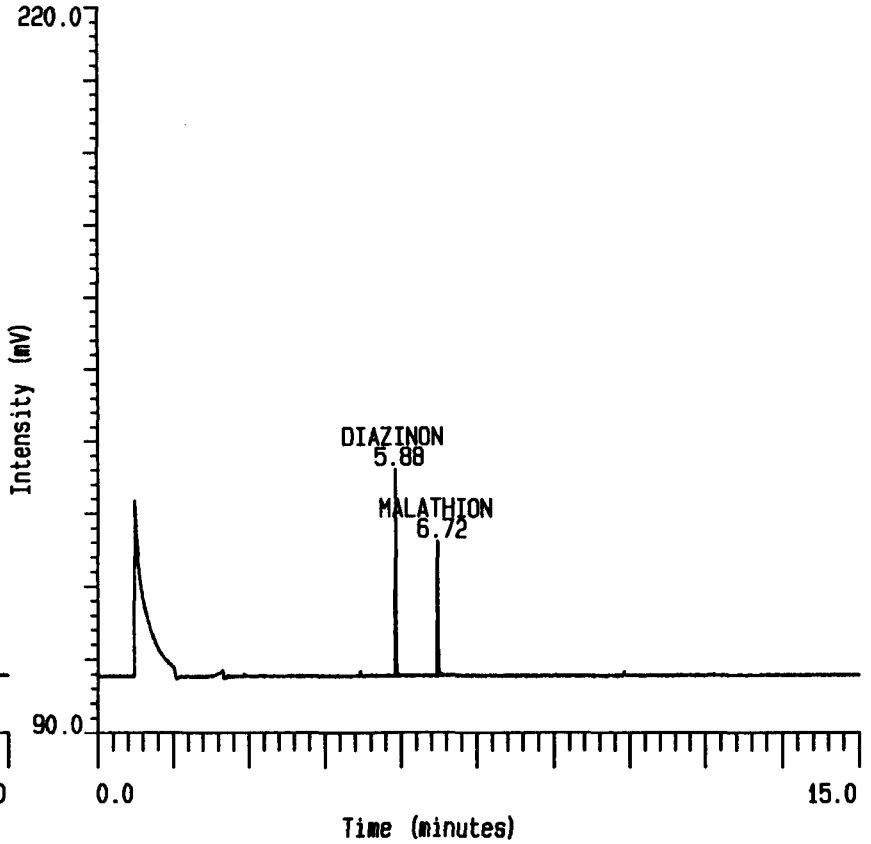
MCDO [43767] 29 SHIRTS17,5,1
GCMIX-G3 60.0 NG/ML STD
Acquired on 5-Sep-1997 at 11:39

Peak Name	RT (mins)	Height	ng/mL or ug
DIAZINON	5.89	59639	60.70562
MALATHION	6.73	39000	61.45940



MCDO [43767] 29 SHIRTS17,6,1
43767-145 RAW EXTRACT 40.0 NG/ML THEOR
Acquired on 5-Sep-1997 at 11:59

Peak Name	RT (mins)	Height	ng/mL or ug
DIAZINON	5.88	37068	37.75033
MALATHION	6.72	24121	37.91951



ABC Laboratories, Inc.

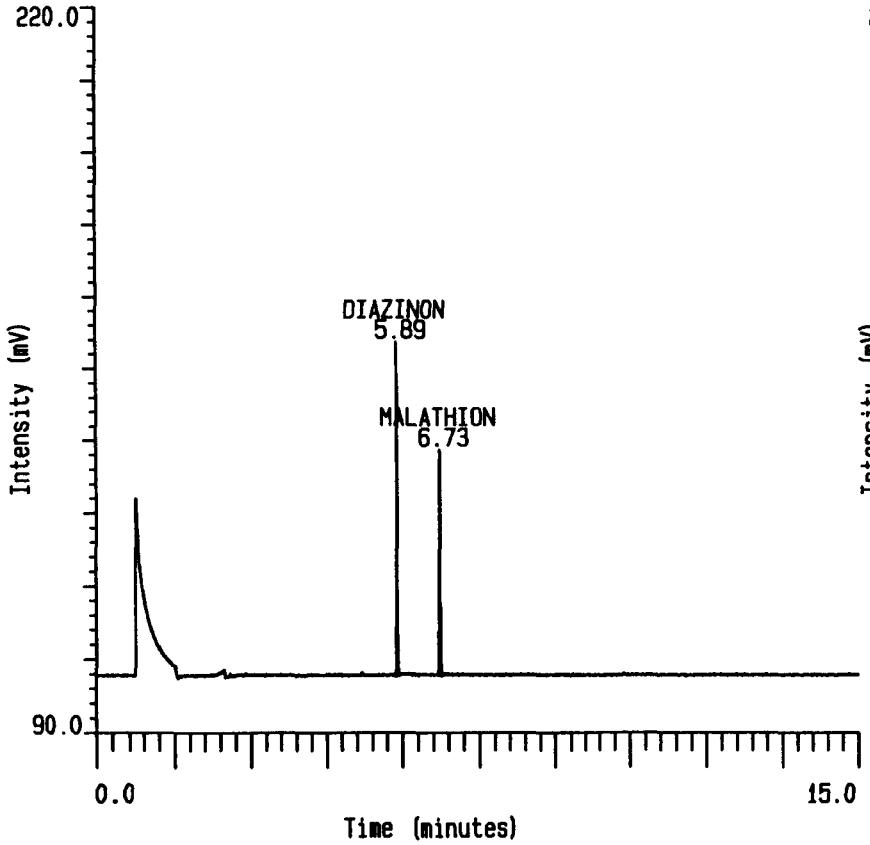
MCPP ver 2.3

43767 SHIRTS METHOD VALIDATION THIRD SET TROUBLESHOOT

Date of Report: 05 SEP 97 at 16:44:01

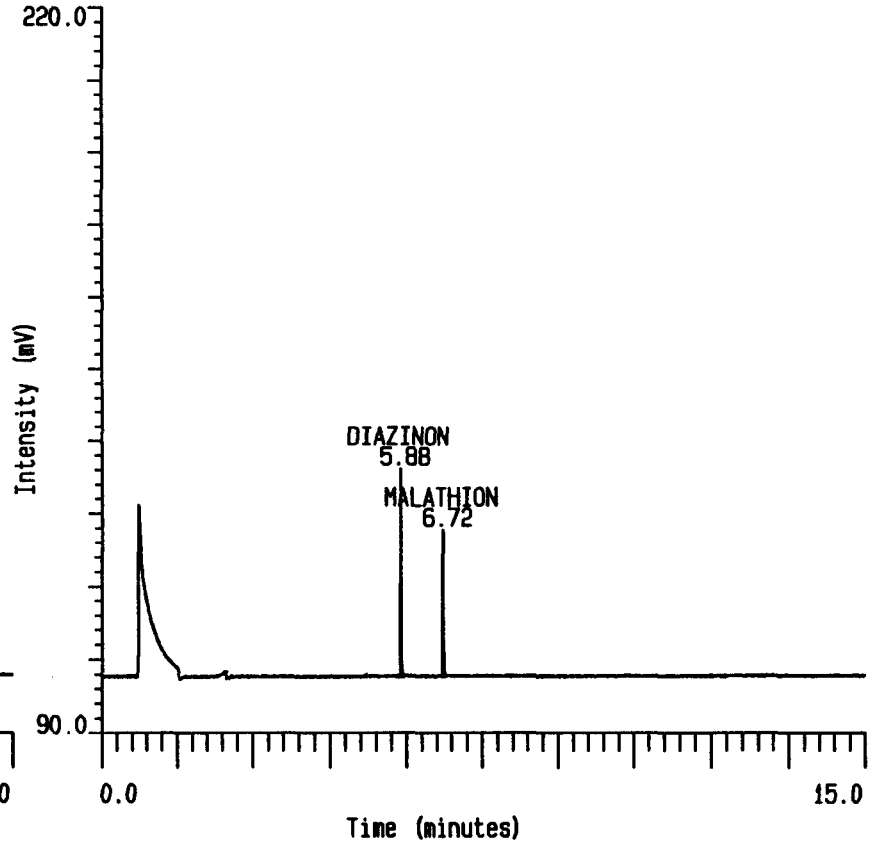
MCDO [43767] 29 SHIRTS17,7,1
43767-145 AOT EXTRACT 66.7 NG/ML THEOR
Acquired on 5-Sep-1997 at 12:19

Peak Name	RT (mins)	Height	ng/mL or ug
DIAZINON	5.89	59689	60.75629
MALATHION	6.73	40265	63.46076



MCDO [43767] 29 SHIRTS17,8,1
43767-145 FINAL REINJ 10000 UG THEOR
Acquired on 5-Sep-1997 at 12:39

Peak Name	RT (mins)	Height	ng/mL or ug
DIAZINON	5.88	37123	8790.14844
MALATHION	6.72	26152	9563.34082



ABC Laboratories, Inc.

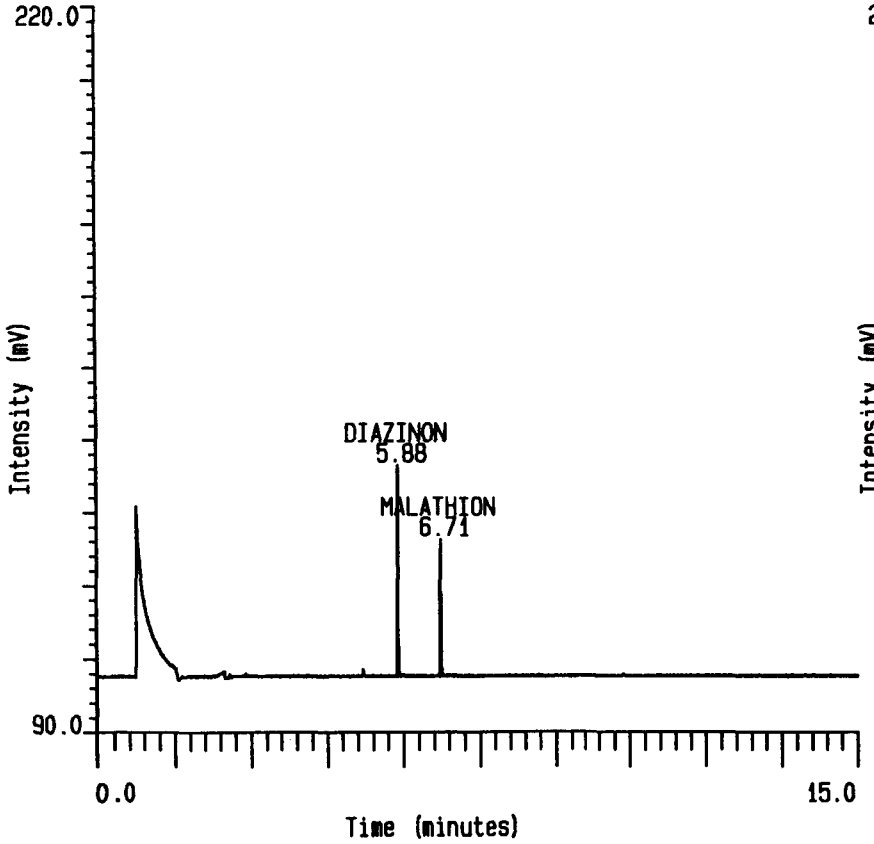
MCPP ver 2.3

43767 SHIRTS METHOD VALIDATION THIRD SET TROUBLESHOOT

Date of Report: 05 SEP 97 at 16:44:01

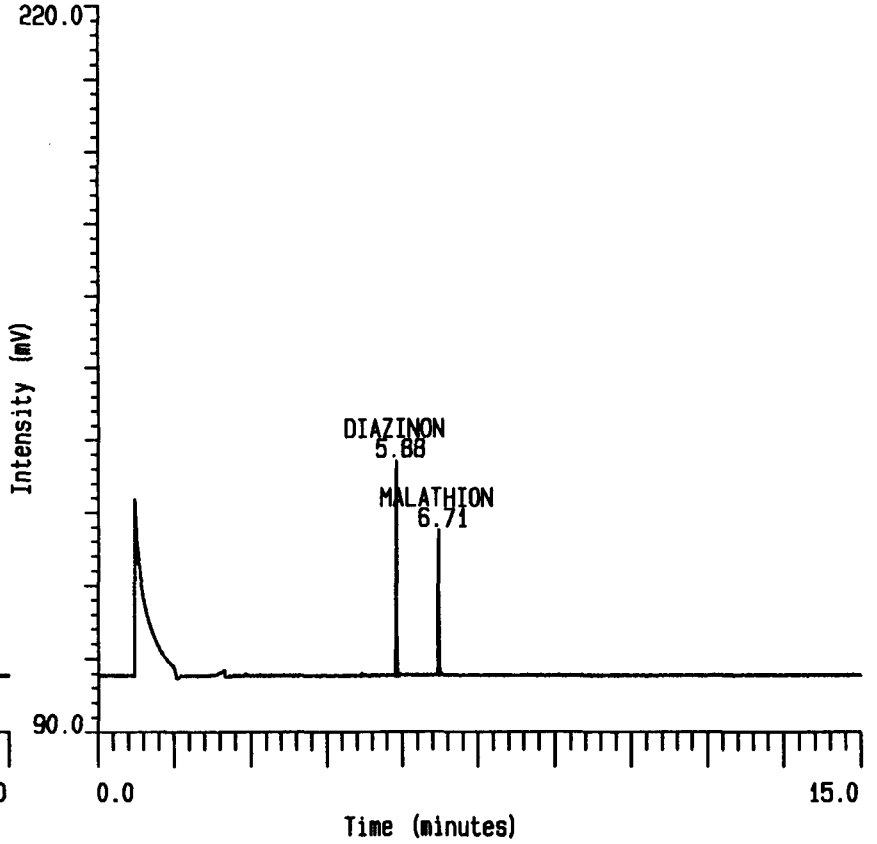
MCDO [43767] 29 SHIRTS17,9,1
GCMIX-G4 40.0 NG/ML STD
Acquired on 5-Sep-1997 at 12:59

Peak Name	RT (mins)	Height	ng/mL or ug
DIAZINON	5.88	37542	38.23278
MALATHION	6.71	24324	38.24033



MCDO [43767] 29 SHIRTS17,10,1
43767-146 RAW EXTRACT 40.0 NG/ML THEOR
Acquired on 5-Sep-1997 at 13:20

Peak Name	RT (mins)	Height	ng/mL or ug
DIAZINON	5.88	38355	39.05951
MALATHION	6.71	25881	40.70466



ABC Laboratories, Inc.

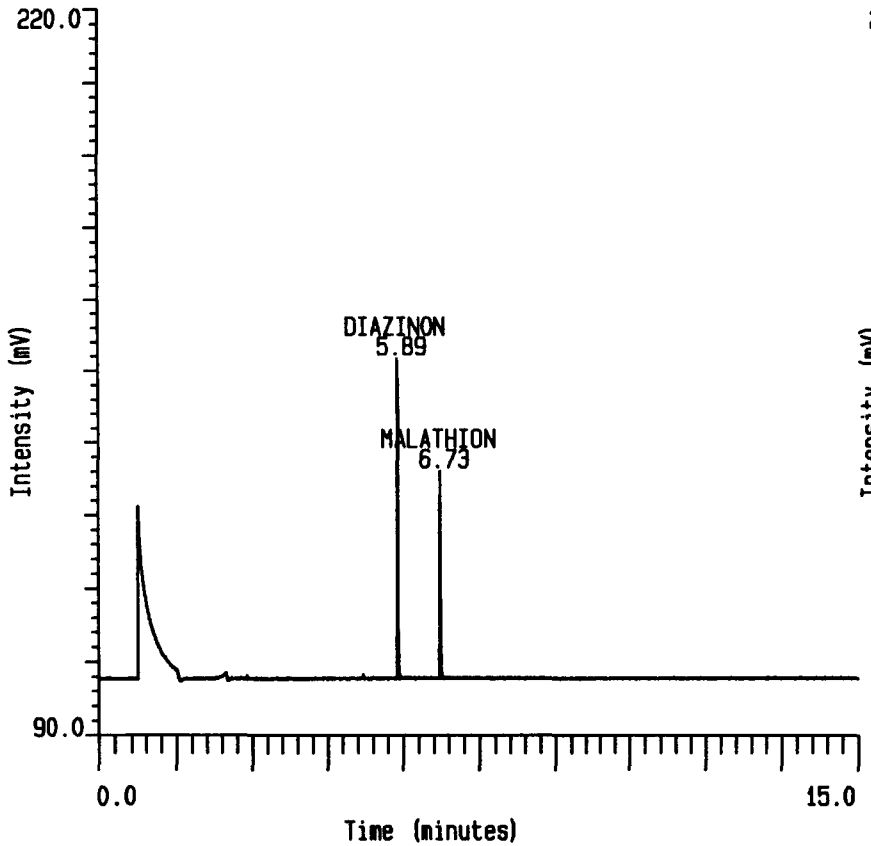
MCPP ver 2.3

43767 SHIRTS METHOD VALIDATION THIRD SET TROUBLESHOOT

Date of Report: 05 SEP 97 at 16:44:01

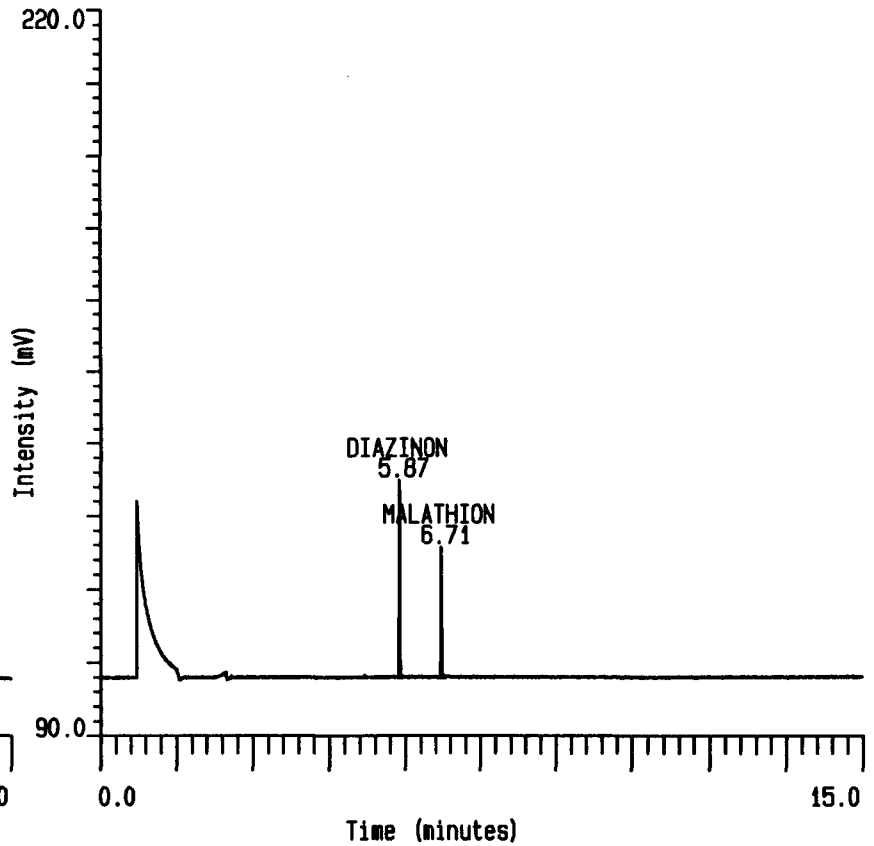
MCDO [43767] 29 SHIRTS17,11,1
43767-146 AOT EXTRACT 66.7 NG/ML THEOR
Acquired on 5-Sep-1997 at 13:40

Peak Name	RT (mins)	Height	ng/mL or ug
DIAZINON	5.89	57229	58.25479
MALATHION	6.73	36883	58.11058



MCDO [43767] 29 SHIRTS17,12,1
43767-146 FINAL REINJ 10000 UG THEOR
Acquired on 5-Sep-1997 at 14:00

Peak Name	RT (mins)	Height	ng/mL or ug
DIAZINON	5.87	35140	8321.06445
MALATHION	6.71	23181	8470.72656



ABC Laboratories, Inc.

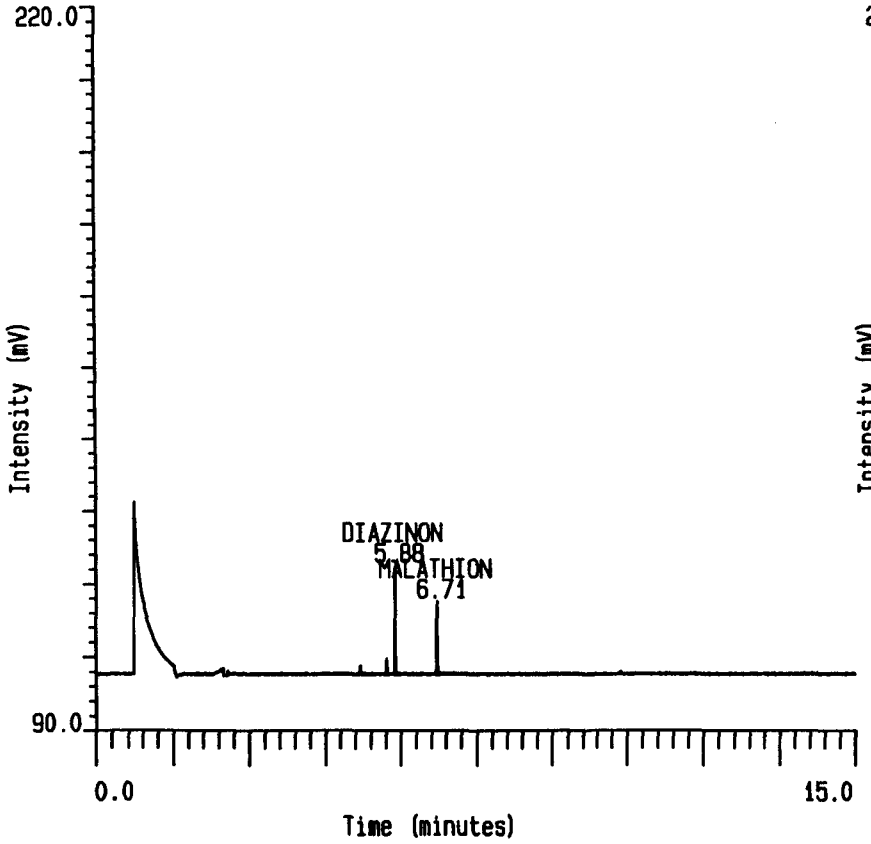
MCPP ver 2.3

43767 SHIRTS METHOD VALIDATION THIRD SET TROUBLESHOOT

Date of Report: 05 SEP 97 at 16:44:01

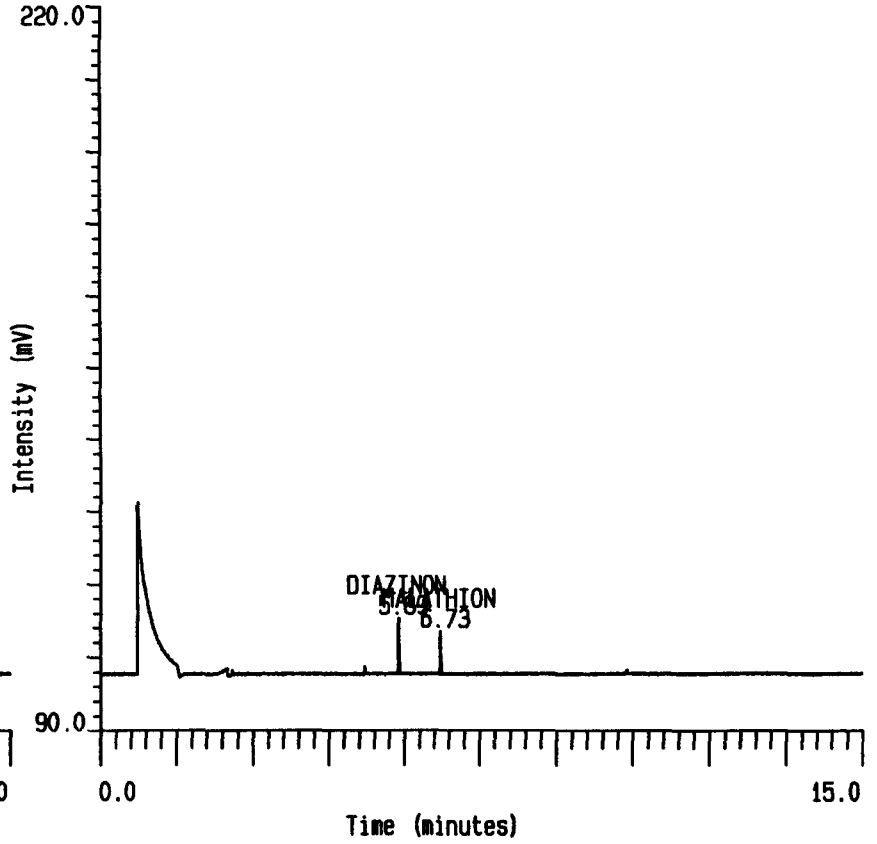
MCDO [43767] 29 SHIRTS17,13,1
GCMIX-G5 20.0 NG/ML STD
Acquired on 5-Sep-1997 at 14:20

Peak Name	RT (mins)	Height	ng/mL or ug
DIAZINON	5.88	19402	19.78392
MALATHION	6.71	12961	20.26280



MCDO [43767] 29 SHIRTS17,14,1
GCMIX-G6 10.0 NG/ML STD
Acquired on 5-Sep-1997 at 14:41

Peak Name	RT (mins)	Height	ng/mL or ug
DIAZINON	5.89	10021	10.24330
MALATHION	6.73	7680	11.90845



ABC Laboratories, Inc.

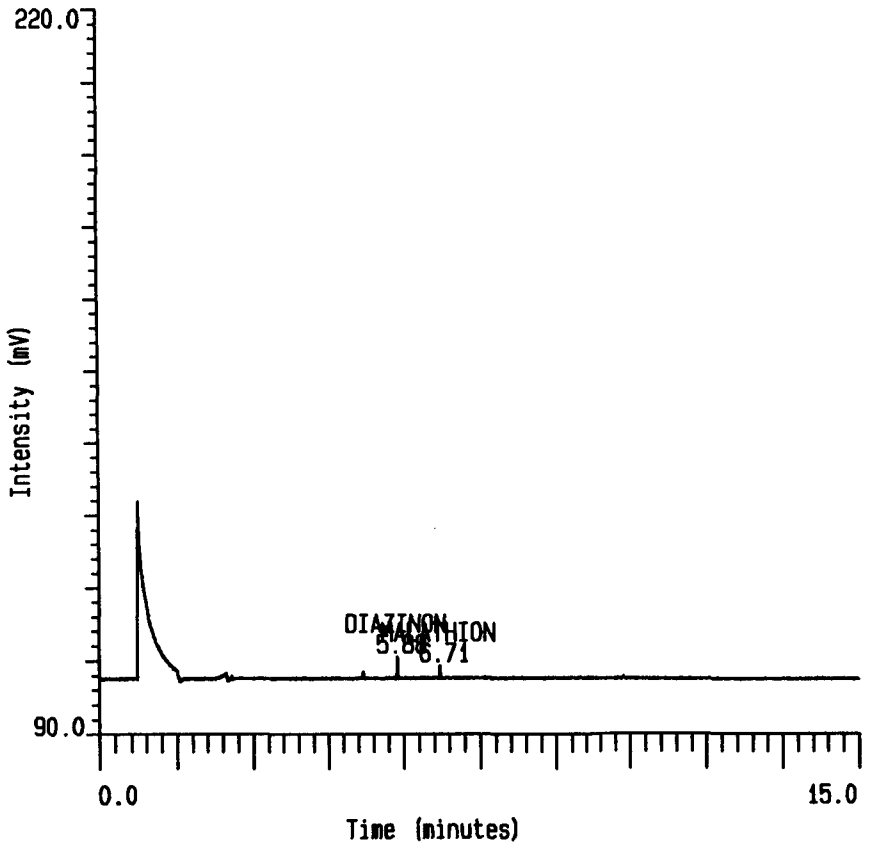
MCPP ver 2.3

43767 SHIRTS METHOD VALIDATION THIRD SET TROUBLESHOOT

Date of Report: 05 SEP 97 at 16:44:01

MCDO [43767] 29 SHIRTS17,15,1
GCMIX-H7 4.00 NG/ML STD
Acquired on 5-Sep-1997 at 15:01

Peak Name	RT (mins)	Height	ng/mL or ug
DIAZINON	5.88	3924	4.04320
MALATHION	6.71	2354	3.48158



[43767] 29 SHIRTS17 Page 1
Reported on 16-SEP-1997 at 14:57
Modified on 5-SEP-1997 at 16:32

List Calibration File

CALIBRATION HEADER INFORMATION

Calibration Title : 43767 METHOD VALIDATION THIRD SET TROUBLESHOOT
General :
Calibration type..... External standard
Units..... ng/mL or ug
Calibration base..... Height
Reference Peak Identification :
Reference window..... 5.0 %
Minimum window..... 0.50 mins
Peak threshold..... 0.0 %
Uncalibrated Peaks Response Factor :
Response factor source..... User set response factor
Response factor..... 0.0000
Additional Information :
Source library..... None
Initialise on 1st standard..... No
Variation tolerance..... 100.00 %
Calibrant Peak Identification :
Calibrant window..... 0.15 mins
Calibrant threshold..... 0.0 %
Response Factor Calibration Curve :
Curve fit..... Linear
Force through zero..... No
X transformation..... None
Y transformation..... None
Weighting..... 1 / Y
Retention Value Calibration Curve :
Curve fit..... Linear
Force through zero..... No
X transformation..... None
Y transformation..... None
Weighting..... None
Timed Calibration Curve :
Curve fit..... Linear
Force through zero..... No
X transformation..... None
Y transformation..... None
Weighting..... None
No group information entered.

[43767] 29 SHIRTS17 Page 2
Reported on 16-SEP-1997 at 14:57
Modified on 5-SEP-1997 at 16:32

Peak name : DIAZINON
Expected retention time : 5.88 mins (RT range : 5.81 - 5.95 mins)
Peak window mode..... Global
Group name identifier..... ----
Peak identification mode..... Largest
Must peak..... No
Reference peak..... No
Dilution peak..... No
Retention standard..... No
Response factor mode..... Internal Levels
Purity..... 100.0000

Calibration level	Standard amount	Response factor	Calibration count
06	4.0000	981.0254	1
05	10.0000	1002.0516	1
04	20.0000	970.0794	1
03	40.0000	938.5483	1
02	60.0000	993.9828	1
01	100.0000	993.5967	1

Peak name : MALATHION
Expected retention time : 6.72 mins (RT range : 6.64 - 6.79 mins)
Peak window mode..... Global
Group name identifier..... ----
Peak identification mode..... Largest
Must peak..... No
Reference peak..... No
Dilution peak..... No
Retention standard..... No
Response factor mode..... Internal Levels
Purity..... 100.0000

Calibration level	Standard amount	Response factor	Calibration count
06	4.0000	588.4971	1
05	10.0000	768.0289	1
04	20.0000	648.0377	1
03	40.0000	608.0916	1
02	60.0000	649.9925	1
01	100.0000	628.1922	1

Observations and Remarks	
Test Material: Diazinon and Malathion Study Sponsor: ARTF Matrices: Various Study Number: 43767	Form AC72A (5/4/93) ABC Laboratories, Inc. 7200 E. ABC Lane Columbia, MO 65202
Method Ruggedness Testing	Study Director: Loren C. Schrier

COMMENTS

Two additional sets of the outer dosimeter shirt samples were processed (from the raw acetone extracts of a third validation set) to demonstrate method ruggedness and reproducibility at the request of the ARTF Analytical Monitor. The outer dosimeter method had proven to be difficult to perform and obtain acceptable results, so the additional data was deemed necessary in support ot the validation package.

Entered by: LC Date: 9 Mar 98

Checked by: JW Date: 9 Mar 98

Approved by: LC Date: 9 Mar 98

[43767] 29 SHRTS16A
Reported on 15-SEP-1997 at 08:22
Modified on 12-SEP-1997 at 14:18

Page 1

List Run Sequence File

ANALYST NAME..... JORDAN E. BLINNE
43767 SHIRTS METHOD VALIDATION (THIRD SET)

ANALYSIS INFORMATION

Analysis name..... SHRTS16A
Method name..... SHRTS16A
Calibration name..... SHRTS16A
Calibration sequence..... Average Standard
User parameter 1 name..... FINAL VOLUME (ML)
User parameter 2 name..... FACTOR 1
User parameter 3 name..... FACTOR 2

SAMPLE SUMMARY

SAMPLE NUMBER	LIMS ID	SAMPLE NAME
1	----------	EQUILIBRATION
2	----------	EQUILIBRATION
3	----------	SOLVENT BLANK
4	----------	GCMIX-G2 100 NG/ML STD
5	----------	GCMIX-G3 60.0 NG/ML STD
6	----------	43767-140A
7	----------	43767-141A
8	----------	43767-142A
9	----------	GCMIX-G4 40.0 NG/ML STD
10	----------	43767-143A
11	----------	43767-144A
12	----------	GCMIX-G5 20.0 NG/ML STD
13	----------	43767-145A
14	----------	43767-146A
15	----------	GCMIX-G6 10.0 NG/ML STD
16	----------	GCMIX-H7 4.00 NG/ML STD

[43767] 29 SHRTS16A
Reported on 15-SEP-1997 at 08:22
Modified on 12-SEP-1997 at 14:18

SAMPLE INFORMATION

SAMPLE NUMBER	TYPE	CALIB LEVEL	UPDATE RT	UPDATE RF	AMOUNT	NUM INJ	BOT NUM
1	Sa	--	-	-	1.00000	1	1
2	Sa	--	-	-	1.00000	1	2
3	Sa	--	-	-	1.00000	1	3
4	St	01	N	I	1.00000	1	4
5	St	02	N	I	1.00000	1	5
6	Sa	--	-	-	1.00000	1	6
7	Sa	--	-	-	1.00000	1	7
8	Sa	--	-	-	1.00000	1	8
9	St	03	N	I	1.00000	1	9
10	Sa	--	-	-	1.00000	1	10
11	Sa	--	-	-	1.00000	1	11
12	St	04	N	I	1.00000	1	12
13	Sa	--	-	-	1.00000	1	13
14	Sa	--	-	-	1.00000	1	14
15	St	05	N	I	1.00000	1	15
16	St	06	N	I	1.00000	1	16

USER PARAMETER VALUES

SAMPLE	FINAL VOLUME (ML)	FACTOR 1	FACTOR 2
1	1.00000	1.00000	1.00000
2	1.00000	1.00000	1.00000
3	2.00000	37500.00000	125000.00000
4	1.00000	1.00000	1.00000
5	1.00000	1.00000	1.00000
6	2.00000	37500.00000	125000.00000
7	2.00000	37500.00000	125000.00000
8	2.00000	37500.00000	125000.00000
9	1.00000	1.00000	1.00000
10	4.00000	37500.00000	125000.00000
11	4.00000	37500.00000	125000.00000
12	1.00000	1.00000	1.00000
13	25.00000	581250.00000	62500.00000
14	25.00000	581250.00000	62500.00000
15	1.00000	1.00000	1.00000
16	1.00000	1.00000	1.00000

[43767] 29 SHRTS16A Page 3
Reported on 15-SEP-1997 at 08:22
Modified on 12-SEP-1997 at 14:18

INTERNAL/DILUTION STANDARDS

SAMPLE NUMBER	ISTD1 AMOUNT	ISTD2 AMOUNT	ISTD3 AMOUNT	DIL1 AMOUNT	DIL2 AMOUNT
1	1.00000	1.00000	1.00000	1.00000	1.00000
2	1.00000	1.00000	1.00000	1.00000	1.00000
3	1.00000	1.00000	1.00000	1.00000	1.00000
4	1.00000	1.00000	1.00000	1.00000	1.00000
5	1.00000	1.00000	1.00000	1.00000	1.00000
6	1.00000	1.00000	1.00000	1.00000	1.00000
7	1.00000	1.00000	1.00000	1.00000	1.00000
8	1.00000	1.00000	1.00000	1.00000	1.00000
9	1.00000	1.00000	1.00000	1.00000	1.00000
10	1.00000	1.00000	1.00000	1.00000	1.00000
11	1.00000	1.00000	1.00000	1.00000	1.00000
12	1.00000	1.00000	1.00000	1.00000	1.00000
13	1.00000	1.00000	1.00000	1.00000	1.00000
14	1.00000	1.00000	1.00000	1.00000	1.00000
15	1.00000	1.00000	1.00000	1.00000	1.00000
16	1.00000	1.00000	1.00000	1.00000	1.00000

PROCESSING ORDER

SAMPLE NUMBER	TYPE
4	Standard
5	Standard
9	Standard
12	Standard
15	Standard
16	Standard
1	Sample
2	Sample
3	Sample
6	Sample
7	Sample
8	Sample
10	Sample
11	Sample
13	Sample
14	Sample

Gas Chromatographic Instrument Parameters Form
Multichrom Channel 29

ABC Laboratory Study Number: 43767
Customer Identification: ARTF

Instrument: HP 5890 Series II Material ID# 1625-0163
Autoinjector: HP 7673B Material ID# 1625-802A

Column: HP-5MS, 30 M X 0.25 mm, 0.25 μm film thickness
Serial#: 57105214

Detector Type: FPD/P

Electrometer: Range 4

Temperatures:
- Injector (°C): 230
- Detector (°C): 230
- Column:
  - Initial Temp.(°C): 95
  - Initial Time: 1.0 min.
  - Program Rate 1: 30 °C/min to 230 °C, hold 4 min
  - Program Rate 2: 40 °C/min to 290 °C, hold 4 min

Carrier Gas Flow Rate:	He	1.6 mL/min
Septum Purge:	He	2.0 mL/min
Make Up Gas:	N_2	21 mL/min
Air Flow Rate:		98 mL/min.
Hydrogen Flow Rate:		69 mL/min.
Purge Valve:	Off at 0 min, on at 0.75 min	

Injection Volume: 2 μL

Run Sequence File: 29 Shrsts16A

Quantitation Standards: GCMIX-G2→GCMIX-G6 Inclusive, GCMIX-H7

RE BJB 23 Sep 97

Prepared By: John B Date: 12 Sep 97
1
Checked By: Barbara Barbara Bryant Date: 23 Sep 97

MCDO [43767] 29 SHRTS16A

ABC Laboratories, Inc.
Sample Information Report ver 3.3

Report Date: 15 SEP 97 at 08:32:21
Page 1

Sample Name	No.	Type	Level	User Parameter 1 FINAL VOLUME (ML)	User Parameter 2 FACTOR 1	User Parameter 3 FACTOR 2
EQUILIBRATION	1	SA		1.00000	1.00000	1.00000
EQUILIBRATION	2	SA		1.00000	1.00000	1.00000
SOLVENT BLANK	3	SA		2.00000	37500.00000	125000.00000
GCMIX-G2 100 NG/ML STD	4	ST	01	1.00000	1.00000	1.00000
GCMIX-G3 60.0 NG/ML STD	5	ST	02	1.00000	1.00000	1.00000
43767-140A	6	SA		2.00000	37500.00000	125000.00000
43767-141A	7	SA		2.00000	37500.00000	125000.00000
43767-142A	8	SA		2.00000	37500.00000	125000.00000
GCMIX-G4 40.0 NG/ML STD	9	ST	03	1.00000	1.00000	1.00000
43767-143A	10	SA		4.00000	37500.00000	125000.00000
43767-144A	11	SA		4.00000	37500.00000	125000.00000
GCMIX-G5 20.0 NG/ML STD	12	ST	04	1.00000	1.00000	1.00000
43767-145A	13	SA		25.00000	581250.00000	62500.00000
43767-146A	14	SA		25.00000	581250.00000	62500.00000
GCMIX-G6 10.0 NG/ML STD	15	ST	05	1.00000	1.00000	1.00000
GCMIX-H7 4.00 NG/ML STD	16	ST	06	1.00000	1.00000	1.00000

MCDO [43767] 29 SHRTS16A

ABC Laboratories, Inc.
Results Information Report ver 3.3
Component Name: DIAZINON

Report Date: 15 SEP 97
Time: 08:32:21
Page: 1

Sample Name	SMP #	INJ #	RT(mins)	Height	ng/mL or ug	CAL. RANG	Peak Type	Bad INJ
EQUILIBRATION	1	1	5.66	27595	30.21754		OB	---
EQUILIBRATION	2	1	5.64	9909	10.34458		OB	---
SOLVENT BLANK	3	1	0.00	0	0.00000	UNDR	OB	---
GCMIX-G2 100 NG/ML STD	4	1	5.66	87148	97.13506		OBF	---
GCMIX-G3 60.0 NG/ML STD	5	1	5.65	55707	61.80632		OB	---
43767-140A	6	1	0.00	0	0.00000	UNDR	O	---
43767-141A	7	1	5.65	7907	4.85673		O	---
43767-142A	8	1	5.65	10081	6.32268		OB	---
GCMIX-G4 40.0 NG/ML STD	9	1	5.65	36246	39.93794		OB	---
43767-143A	10	1	5.64	42220	55.98099		OB	---
43767-144A	11	1	5.65	42466	56.31268		OB	---
GCMIX-G5 20.0 NG/ML STD	12	1	5.65	20029	21.71585		OB	---
43767-145A	13	1	5.65	28207	7185.50391		OB	---
43767-146A	14	1	5.65	36307	9301.66992		OB	---
GCMIX-G6 10.0 NG/ML STD	15	1	5.66	9647	10.04998		OB	---
GCMIX-H7 4.00 NG/ML STD	16	1	5.67	3951	3.64959		OB	---

MCDO [43767] 29 SHRTS16A

ABC Laboratories, Inc.
Results Information Report ver 3.3
Component Name: MALATHION

Report Date: 15 SEP 97
Time: 08:32:21
Page: 1

Sample Name	SMP #	INJ #	RT(mins)	Height	ng/mL or ug	CAL. RANG	Peak Type	Bad INJ
EQUILIBRATION	1	1	6.43	25295	40.59602		OB	---
EQUILIBRATION	2	1	6.41	6819	9.89640		OBF	---
SOLVENT BLANK	3	1	0.00	0	0.00000	UNDR	OB	---
GCMIX-G2 100 NG/ML STD	4	1	6.42	61062	100.02939		OB	---
GCMIX-G3 60.0 NG/ML STD	5	1	6.41	36639	59.44548		OB	---
43767-140A	6	1	0.00	0	0.00000	UNDR	OBF	---
43767-141A	7	1	6.42	5620	4.74234		OF	---
43767-142A	8	1	6.42	6846	5.96409		OB	---
GCMIX-G4 40.0 NG/ML STD	9	1	6.42	24706	39.61823		OB	---
43767-143A	10	1	6.41	28101	54.31153		OB	---
43767-144A	11	1	6.42	30530	59.15369		OBF	---
GCMIX-G5 20.0 NG/ML STD	12	1	6.42	13085	20.30766		O	---
43767-145A	13	1	6.41	26406	9867.82813		OB	---
43767-146A	14	1	6.41	25554	9538.70215		OBF	---
GCMIX-G6 10.0 NG/ML STD	15	1	6.42	7633	11.24858		OB	---
GCMIX-H7 4.00 NG/ML STD	16	1	6.43	2989	3.53086		OB	---

Acquisition and Peak Processing Parameters Report Print Date and Time : 15 SEP 97 08:39:27
Version 2 Page : 1
MCDO [43767] 29 SHRTS16A Based on Sample Number : 1 Injection Number : 1

ACQUISITION PARAMETERS
Data Collection :
Length of Run..... 14.99 mins
Post Injection Delay..... 0.00 mins
Sampling Rate..... 15.00 Hz
Baseline Offset :
Adjust Baseline..... Yes
Baseline Offset..... 10.00 %

PEAK PROCESSING PARAMETERS
Auto Process Parameters :
Peak Threshold..... 0.50
Baseline Test..... 4
Peak Trend..... 4
Separation Parameters :
Shoulder Sensitivity..... 0.10
Rider Sensitivity..... 0.05
Rejection Parameters :
Minimum Peak Width..... 0.00 secs
Minimum Peak Height..... 500.00 uV
Minimum Peak Area..... 1000.00 uVs
Ignore Flat Top Peak..... No
User Imposed Action Control :
Forced Baseline..... No
Suppress Integration..... Yes
Tangent Skimming..... No
Shoulder Detection..... No
Data Bunching..... No
Negative Detection..... No
Integration Modes :
Retention Time Integration..... No
Square Root Area and Height..... No

PROCESSING ACTIONS

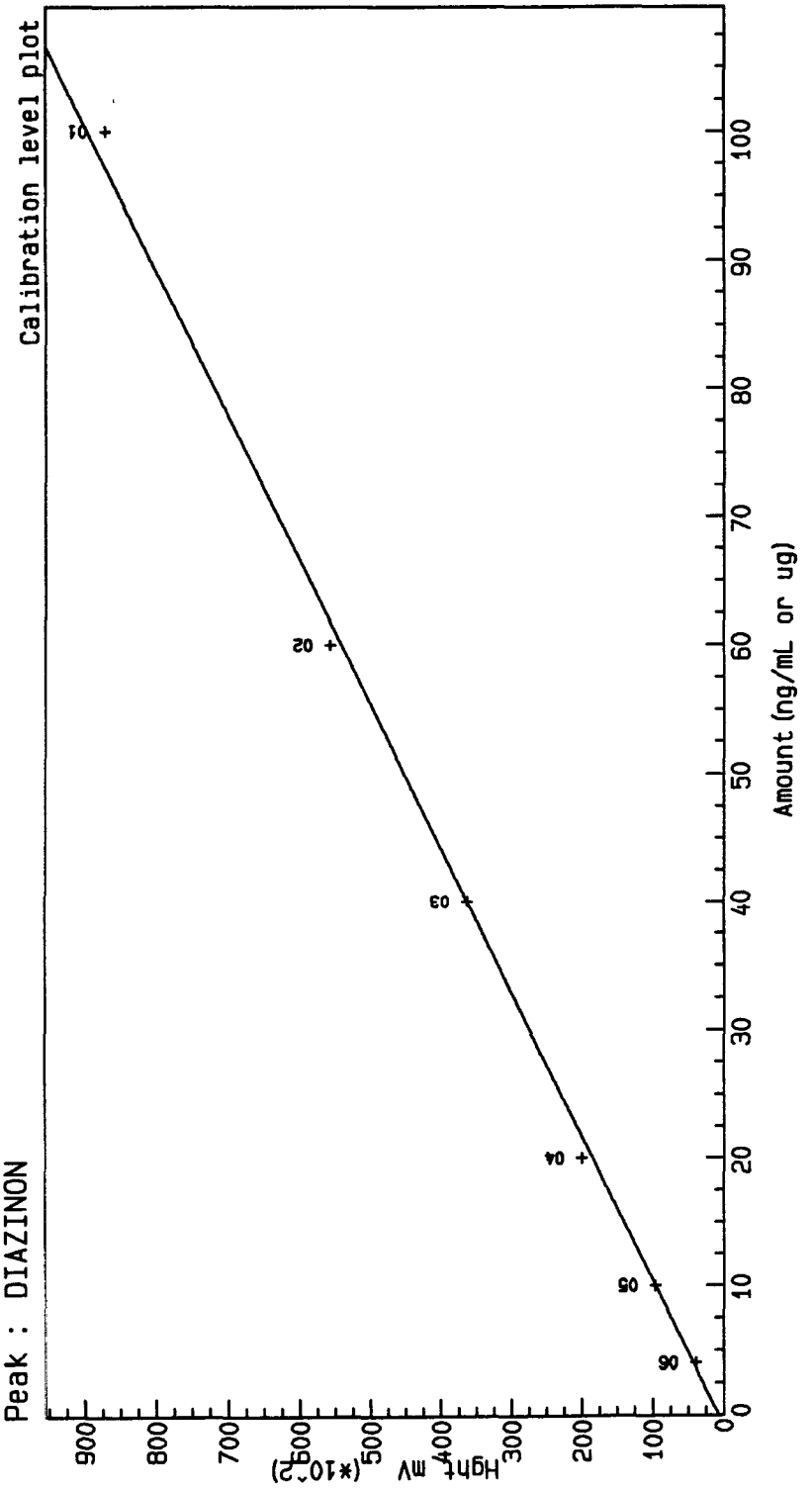
Time (mins)	Force Baseline	Integrate Suppress	Tangent Skim	Bunch Size	Shoulder Detect	Negative Detect
0.00	--	SI	_	0	--	--
5.50	--	ES	_	0	--	--
7.50	--	SI	_	0	--	--

Calibration last modified on 15-Sep-1997 at 08:29
Calibration Sequence..... AVERAGE

These parameters apply to all injections of set SHRTS16A with no exceptions

ABC Laboratories, Inc. Multichrom ver 1.8-2

Calibration Name : 29 SHRTS16A.
43767 METHOD VALIDATION (THIRD SET)
Peak : DIAZINON



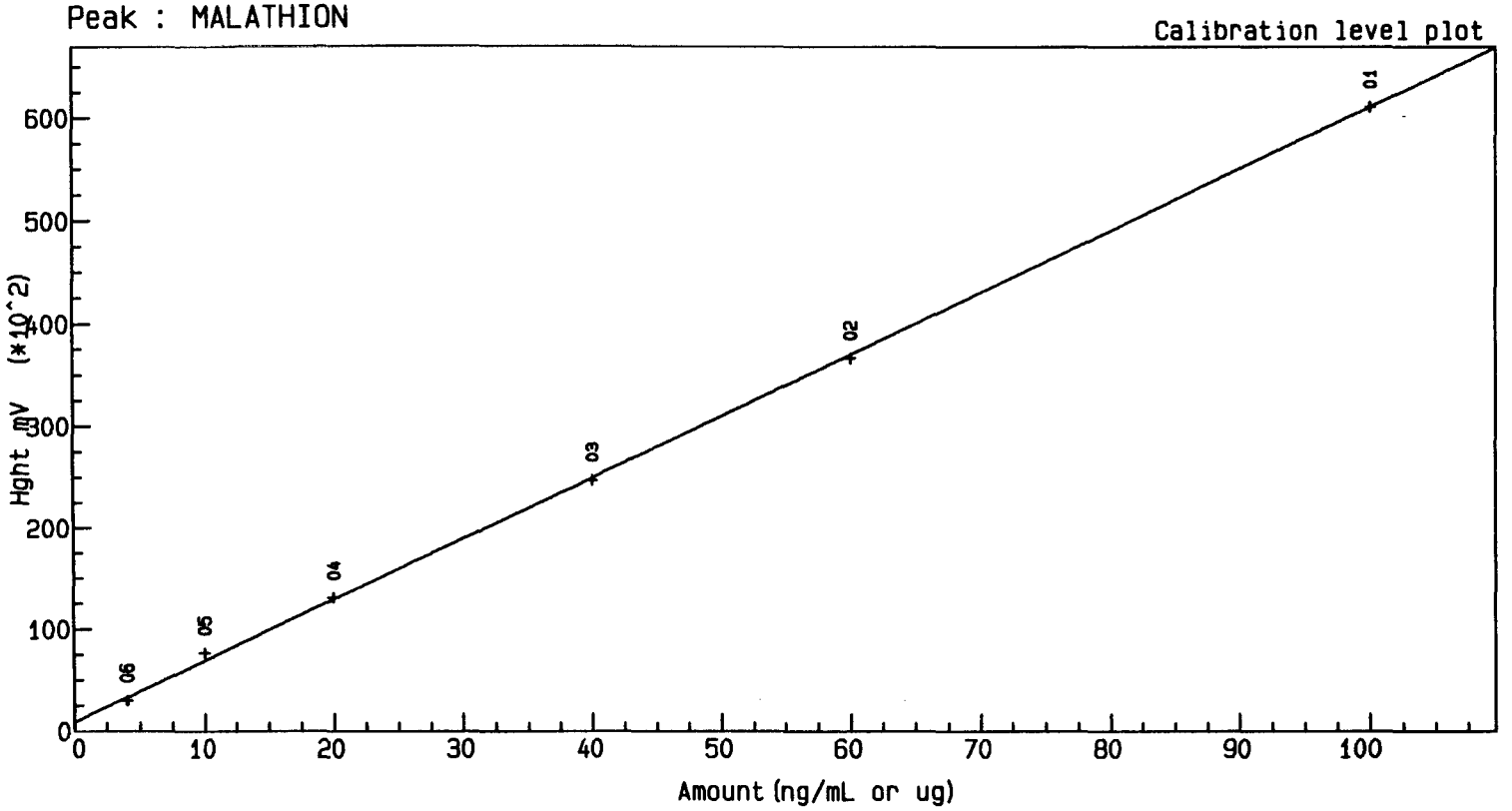
Constant : 7.03110E+2
1st degree : 8.89942E+2

Curve fit : Linear
Correlation coefficient : 0.99884
Standard error : 1.69697E+3

Reported on 15-SEP-1997 at 08:40

ABC Laboratories, Inc. Multichrom ver 1.8-2

Calibration Name : 29 SHRTS16A.
43767 METHOD VALIDATION (THIRD SET)
Peak : MALATHION



Constant : 8.63672E+2
1st degree : 6.01810E+2

Curve fit : Linear
Correlation coefficient : 0.99982
Standard error : 4.59094E+2

Reported on 15-SEP-1997 at 08:40

ABC Laboratories, Inc.

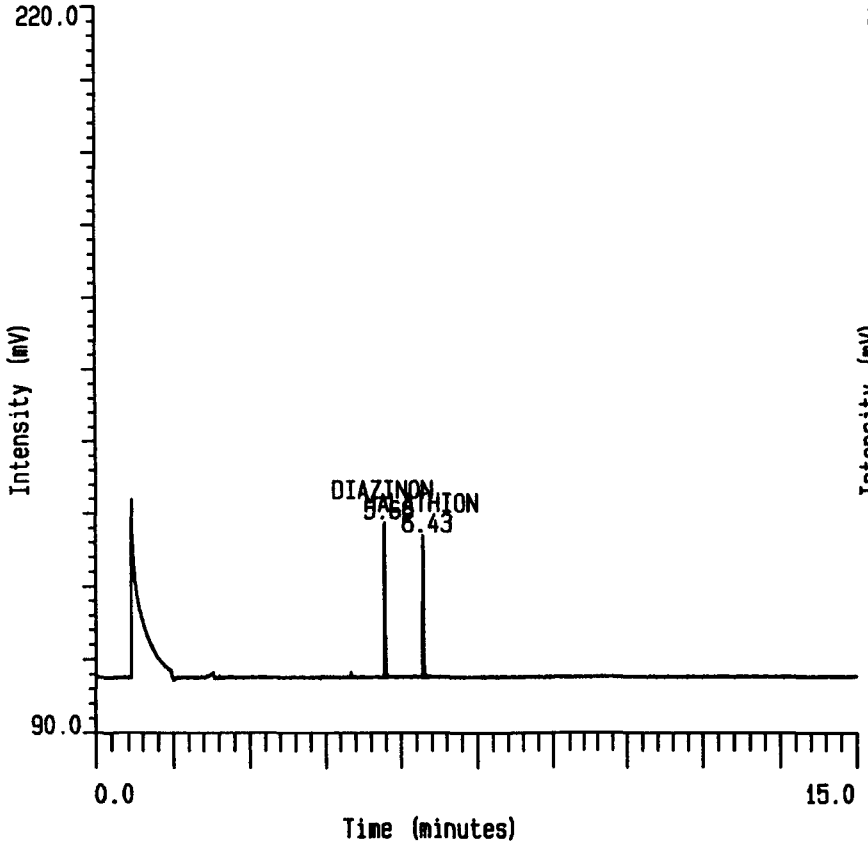
MCPP ver 2.3

43767 SHIRTS METHOD VALIDATION (THIRD SET)

Date of Report: 15 SEP 97 at 08:41:00

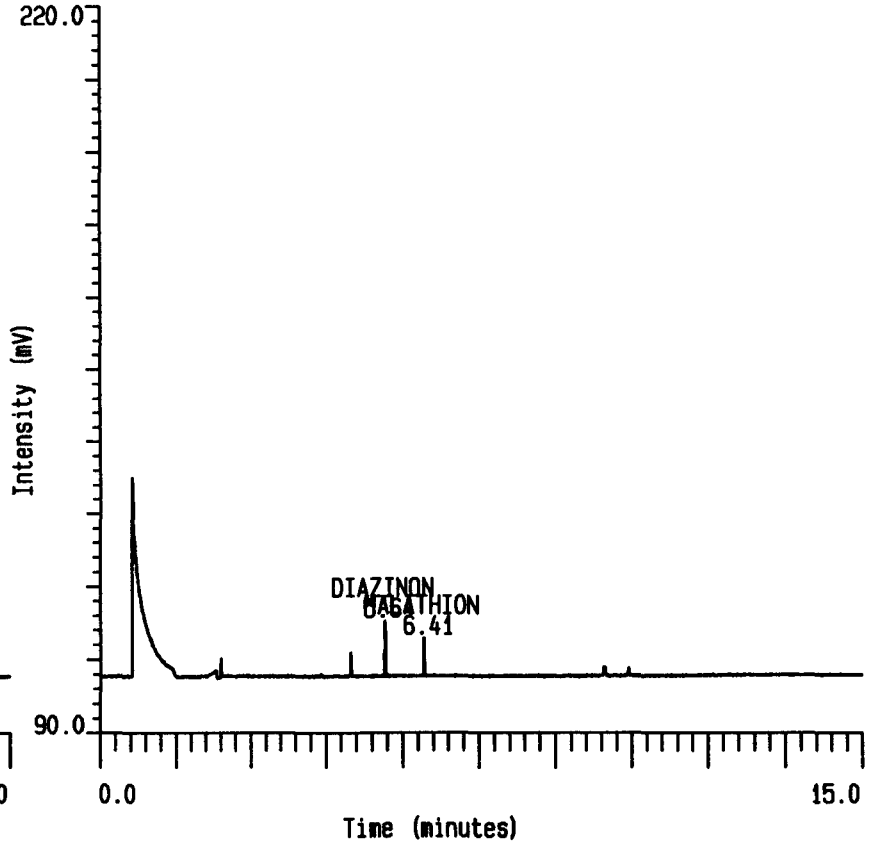
MCDO [43767] 29 SHRTS16A, 1, 1
EQUILIBRATION
Acquired on 12-Sep-1997 at 22:11

Peak Name	RT (mins)	Height	ng/mL or ug
DIAZINON	5.66	27595	30.21754
MALATHION	6.43	25295	40.59602



MCDO [43767] 29 SHRTS16A, 2, 1
EQUILIBRATION
Acquired on 12-Sep-1997 at 22:31

Peak Name	RT (mins)	Height	ng/mL or ug
DIAZINON	5.64	9909	10.34458
MALATHION	6.41	6819	9.89640



ABC Laboratories, Inc.

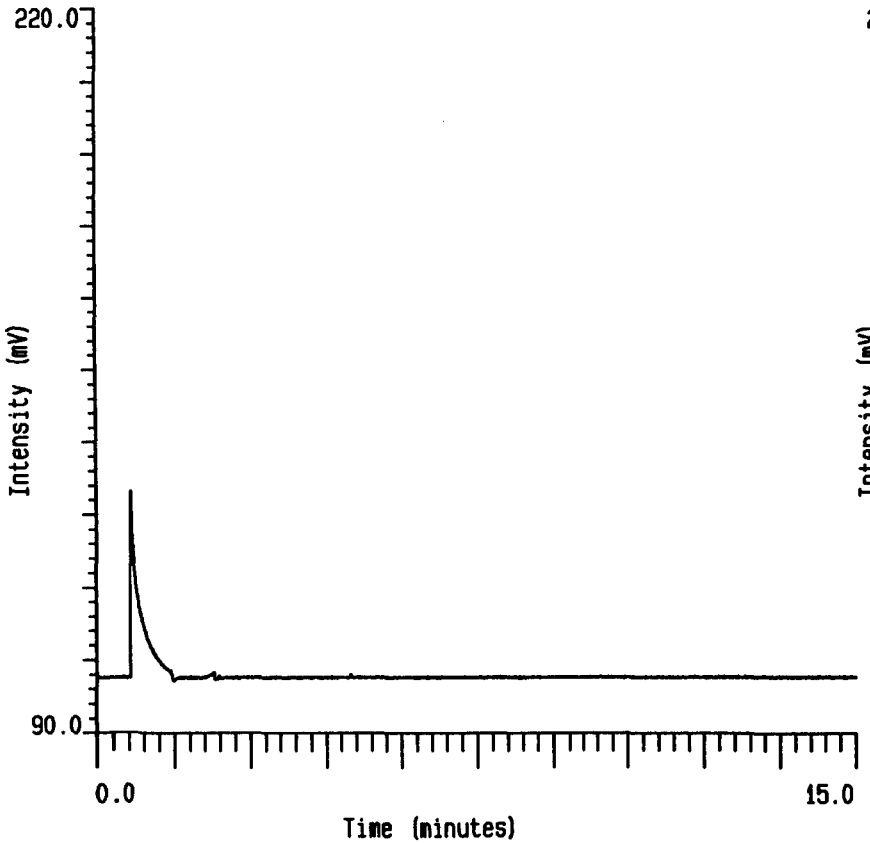
MCPP ver 2.3

43767 SHIRTS METHOD VALIDATION (THIRD SET)

Date of Report: 15 SEP 97 at 08:41:00

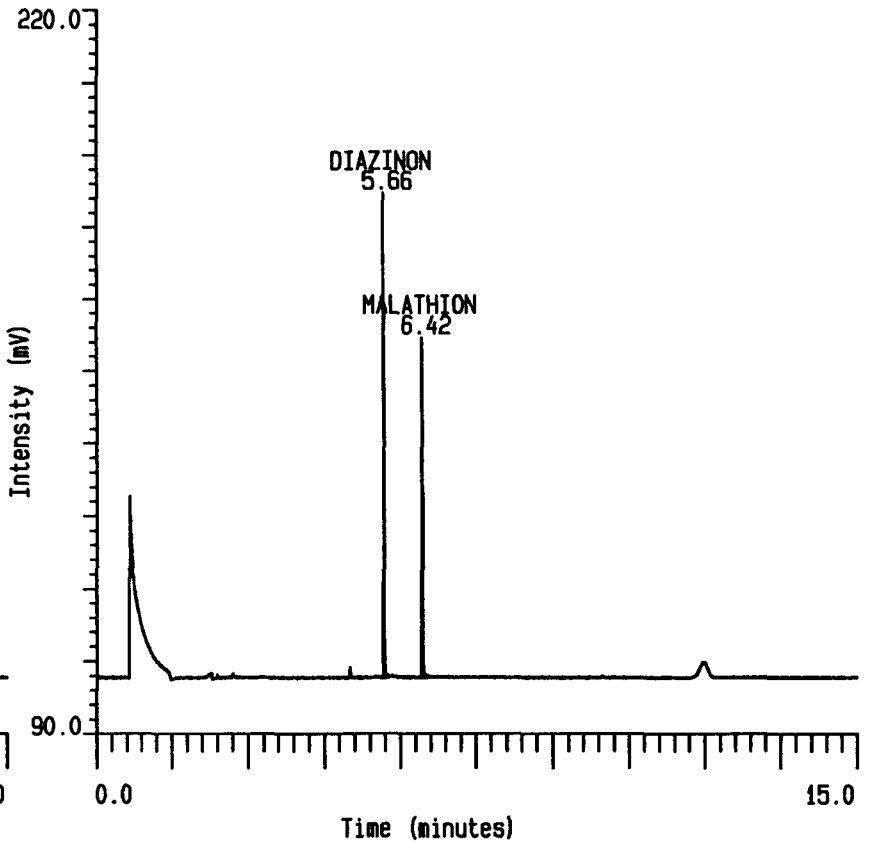
MCDO [43767] 29 SHRTS16A, 3, 1
SOLVENT BLANK
Acquired on 12-Sep-1997 at 22:52

Peak Name	RT (mins)	Height	ng/mL or ug
DIAZINON	0.00	0	0
MALATHION	0.00	0	0



MCDO [43767] 29 SHRTS16A, 4, 1
GCMIX-G2 100 NG/ML STD
Acquired on 12-Sep-1997 at 23:12

Peak Name	RT (mins)	Height	ng/mL or ug
DIAZINON	5.66	87148	97.13506
MALATHION	6.42	61062	100.02939



ABC Laboratories, Inc.

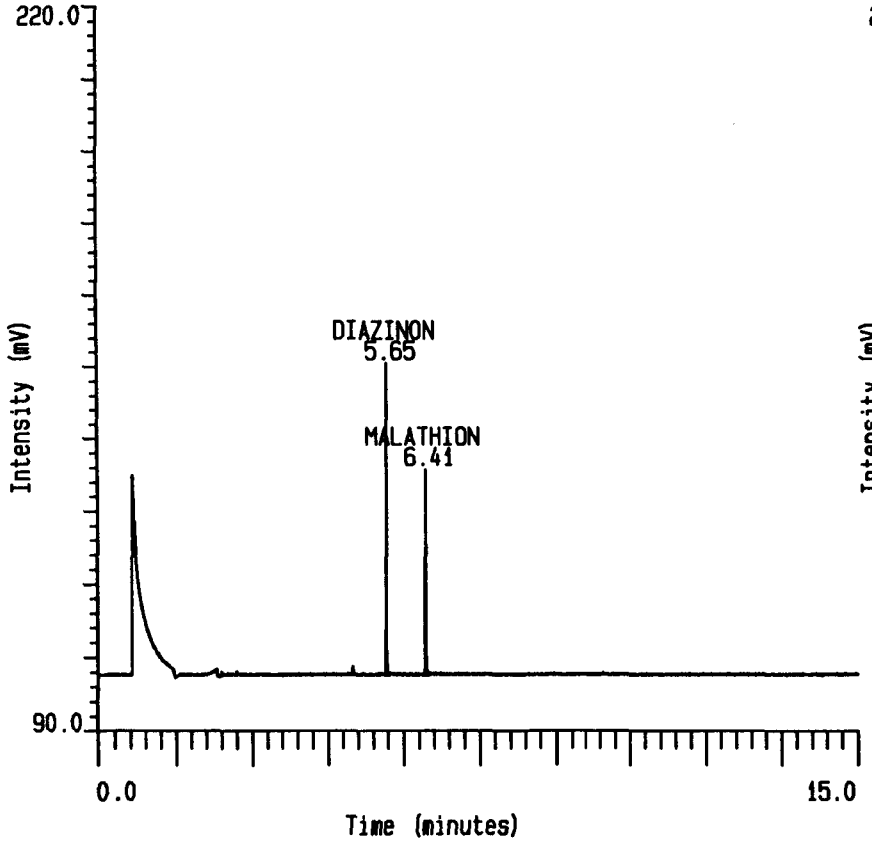
MCPP ver 2.3

43767 SHIRTS METHOD VALIDATION (THIRD SET)

Date of Report: 15 SEP 97 at 08:41:00

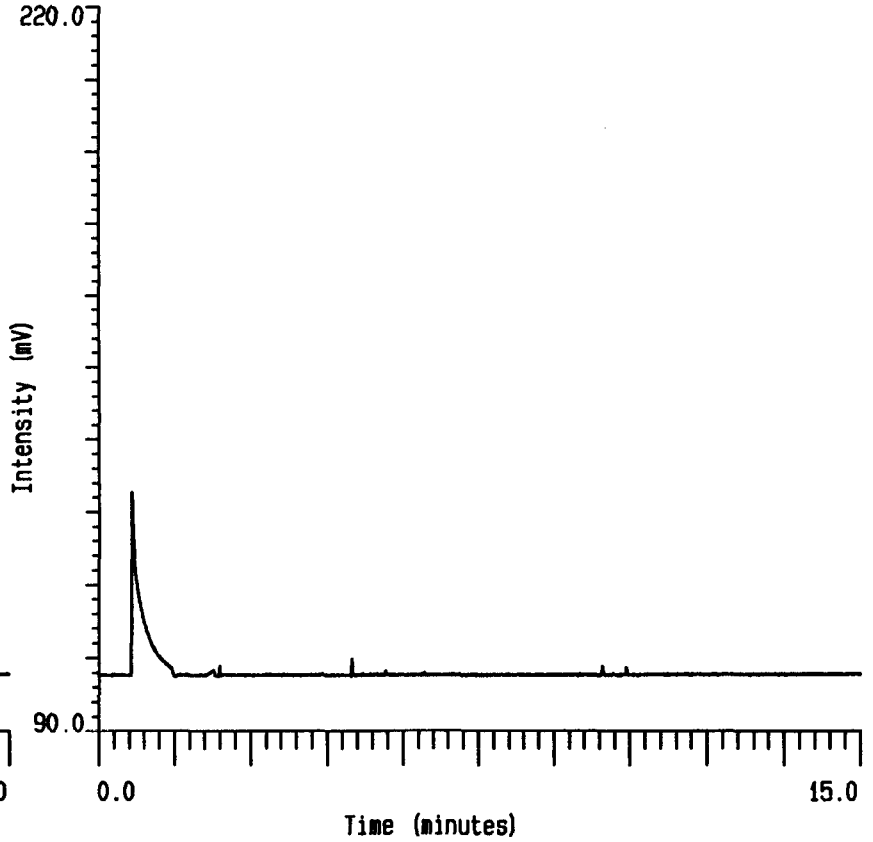
MCDO [43767] 29 SHRTS16A,5,1
GCMIX-G3 60.0 NG/ML STD
Acquired on 12-Sep-1997 at 23:32

Peak Name	RT (mins)	Height	ng/mL or ug
DIAZINON	5.65	55707	61.80632
MALATHION	6.41	36639	59.44548



MCDO [43767] 29 SHRTS16A,6,1
43767-140A
Acquired on 12-Sep-1997 at 23:52

Peak Name	RT (mins)	Height	ng/mL or ug
DIAZINON	0.00	0	0
MALATHION	0.00	0	0



ABC Laboratories, Inc.

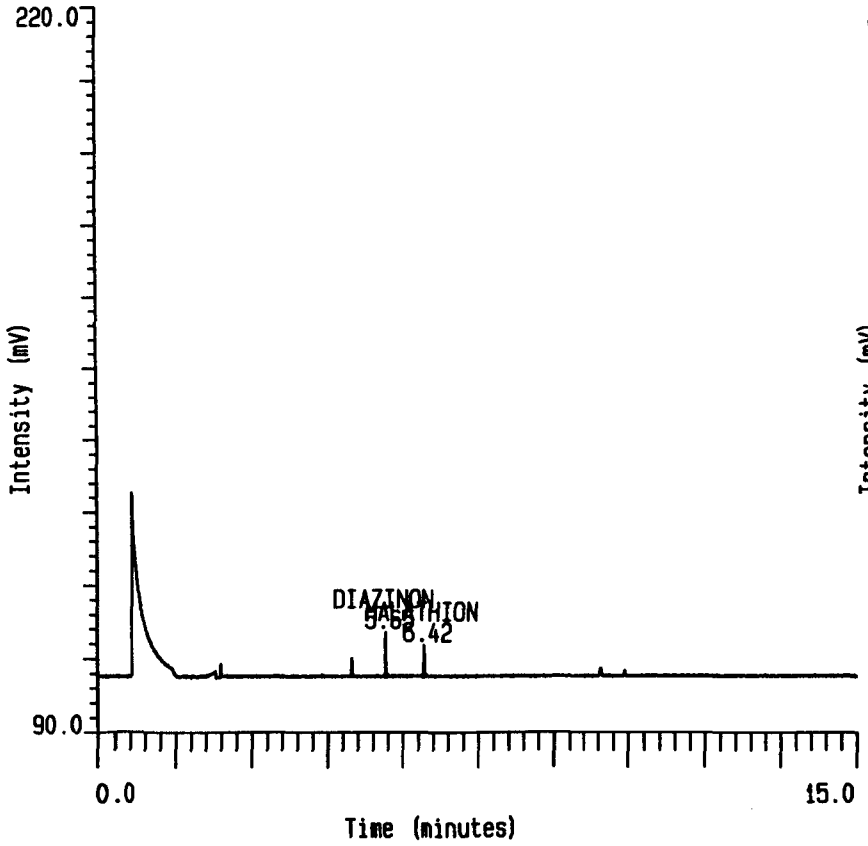
MCPP ver 2.3

43767 SHIRTS METHOD VALIDATION (THIRD SET)

Date of Report: 15 SEP 97 at 08:41:00

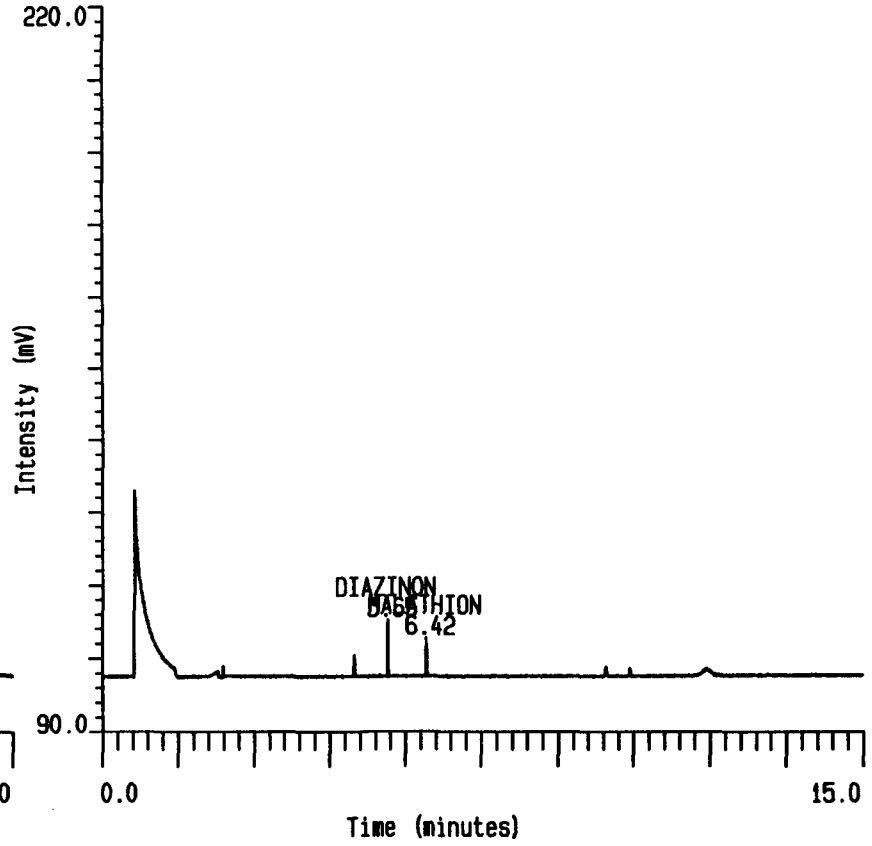
MCDO [43767] 29 SHRTS16A,7,1
43767-141A
Acquired on 13-Sep-1997 at 00:12

Peak Name	RT (mins)	Height	ng/mL or ug
DIAZINON	5.65	7907	4.85673
MALATHION	6.42	5620	4.74234



MCDO [43767] 29 SHRTS16A,8,1
43767-142A
Acquired on 13-Sep-1997 at 00:32

Peak Name	RT (mins)	Height	ng/mL or ug
DIAZINON	5.65	10081	6.32268
MALATHION	6.42	6846	5.96409



ABC Laboratories, Inc.

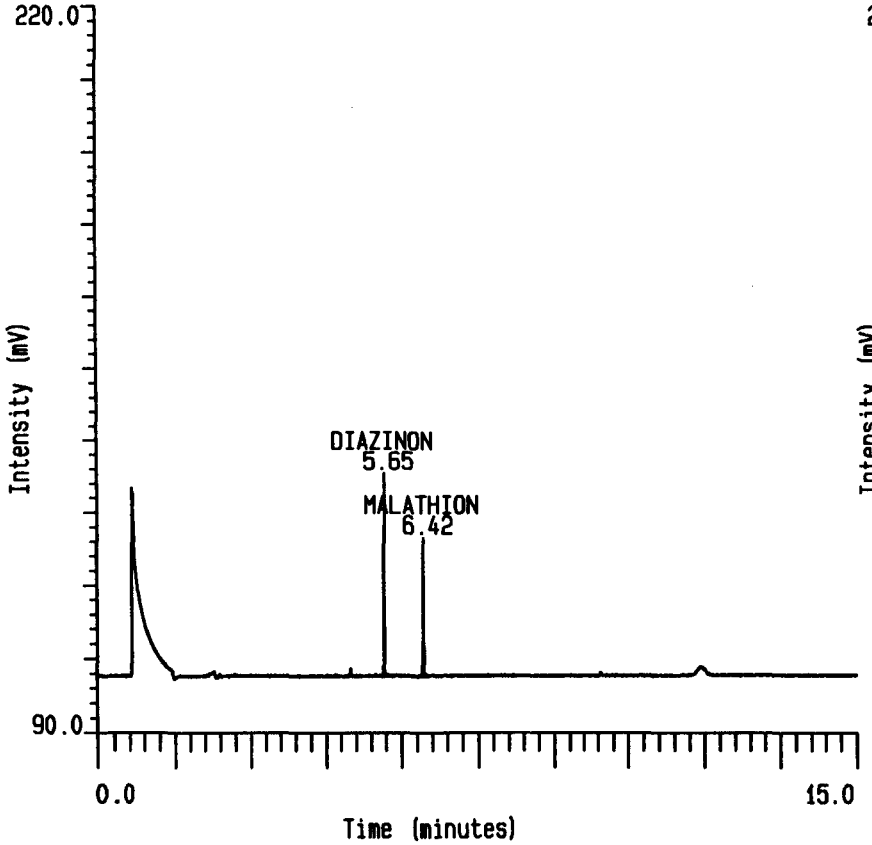
MCPP ver 2.3

43767 SHIRTS METHOD VALIDATION (THIRD SET)

Date of Report: 15 SEP 97 at 08:41:00

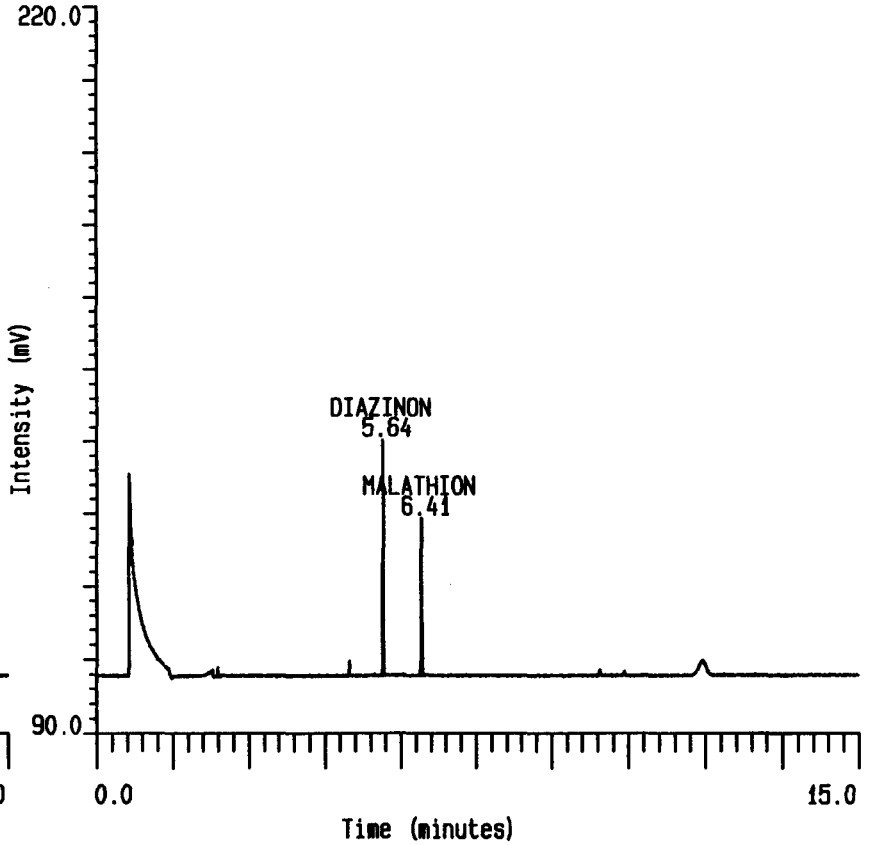
MCDO [43767] 29 SHRTS16A, 9, 1
GCMIX-G4 40.0 NG/ML STD
Acquired on 13-Sep-1997 at 00:52

Peak Name	RT (mins)	Height	ng/mL or ug
DIAZINON	5.65	36246	39.93794
MALATHION	6.42	24706	39.61823



MCDO [43767] 29 SHRTS16A, 10, 1
43767-143A
Acquired on 13-Sep-1997 at 01:12

Peak Name	RT (mins)	Height	ng/mL or ug
DIAZINON	5.64	42220	55.98099
MALATHION	6.41	28101	54.31153



ABC Laboratories, Inc.

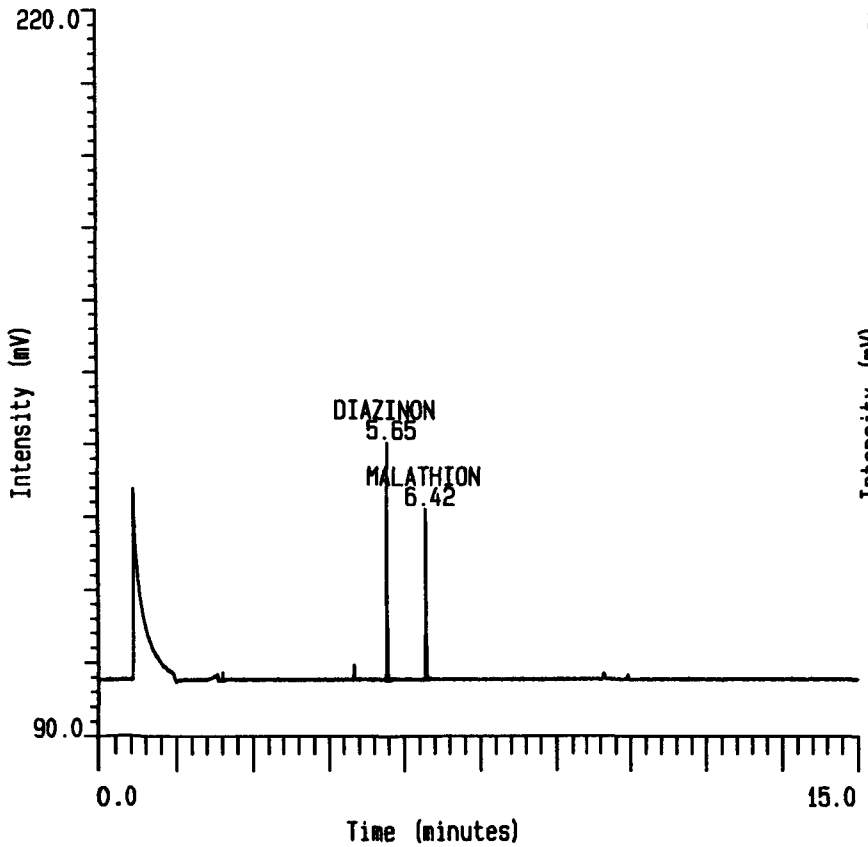
MCPP ver 2.3

43767 SHIRTS METHOD VALIDATION (THIRD SET)

Date of Report: 15 SEP 97 at 08:41:00

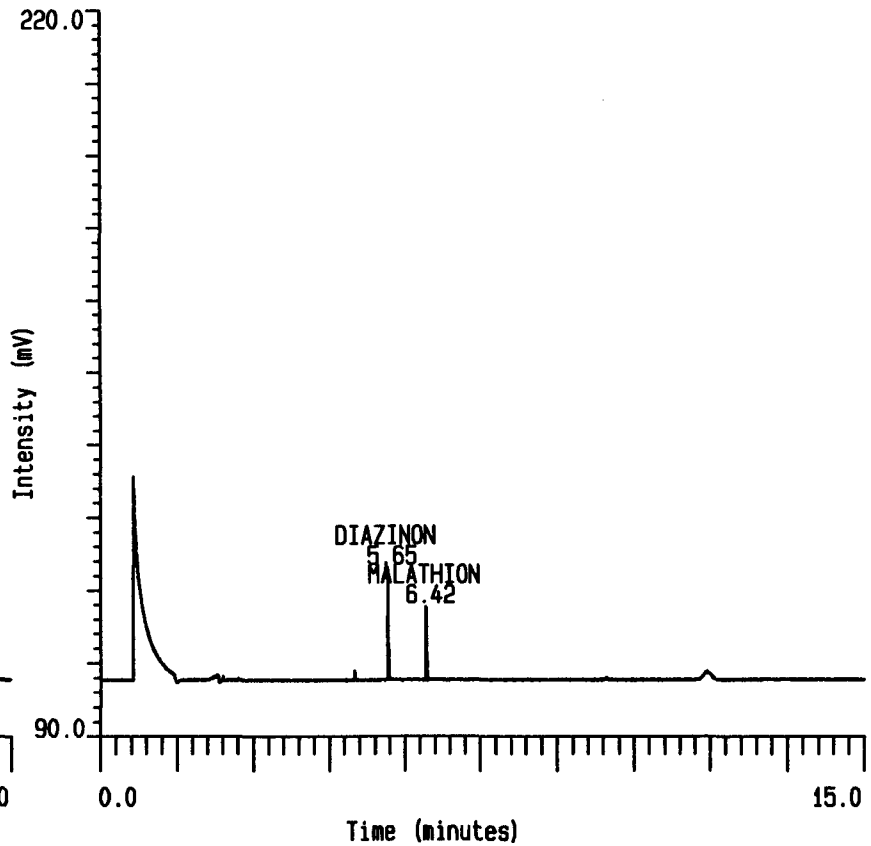
MCDO [43767] 29 SHRTS16A, 11, 1
43767-144A
Acquired on 13-Sep-1997 at 01:33

Peak Name	RT (mins)	Height	ng/mL or ug
DIAZINON	5.65	42466	56.31268
MALATHION	6.42	30530	59.15369



MCDO [43767] 29 SHRTS16A, 12, 1
GCMIX-G5 20.0 NG/ML STD
Acquired on 13-Sep-1997 at 01:53

Peak Name	RT (mins)	Height	ng/mL or ug
DIAZINON	5.65	20029	21.71585
MALATHION	6.42	13085	20.30766



ABC Laboratories, Inc.

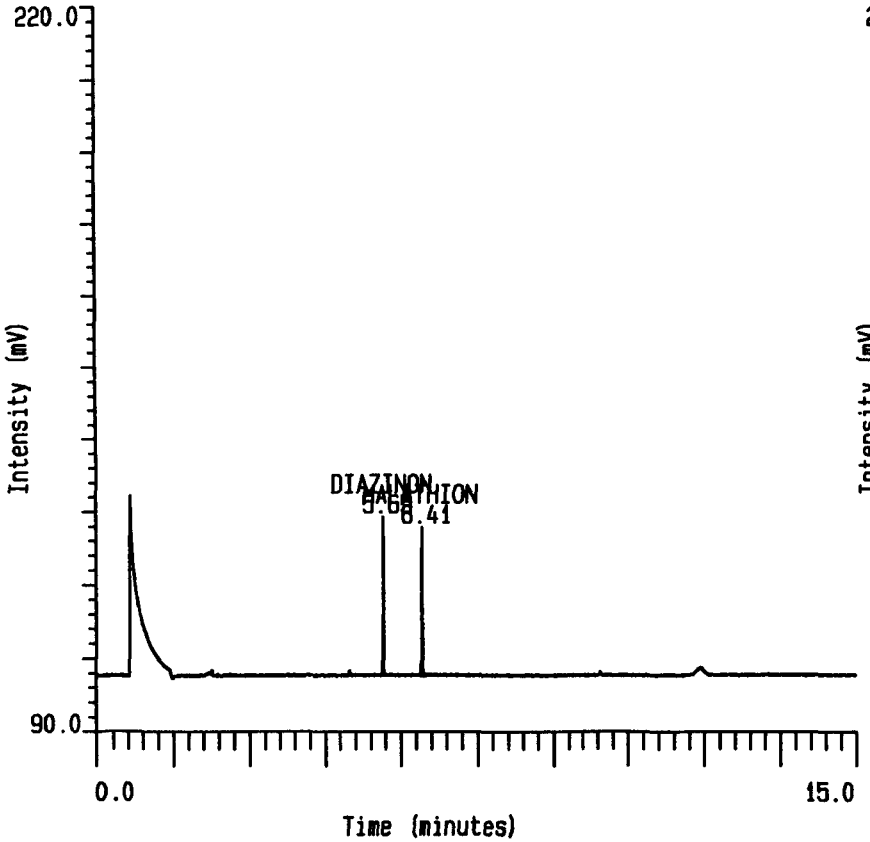
MCPP ver 2.3

43767 SHIRTS METHOD VALIDATION (THIRD SET)

Date of Report: 15 SEP 97 at 08:41:00

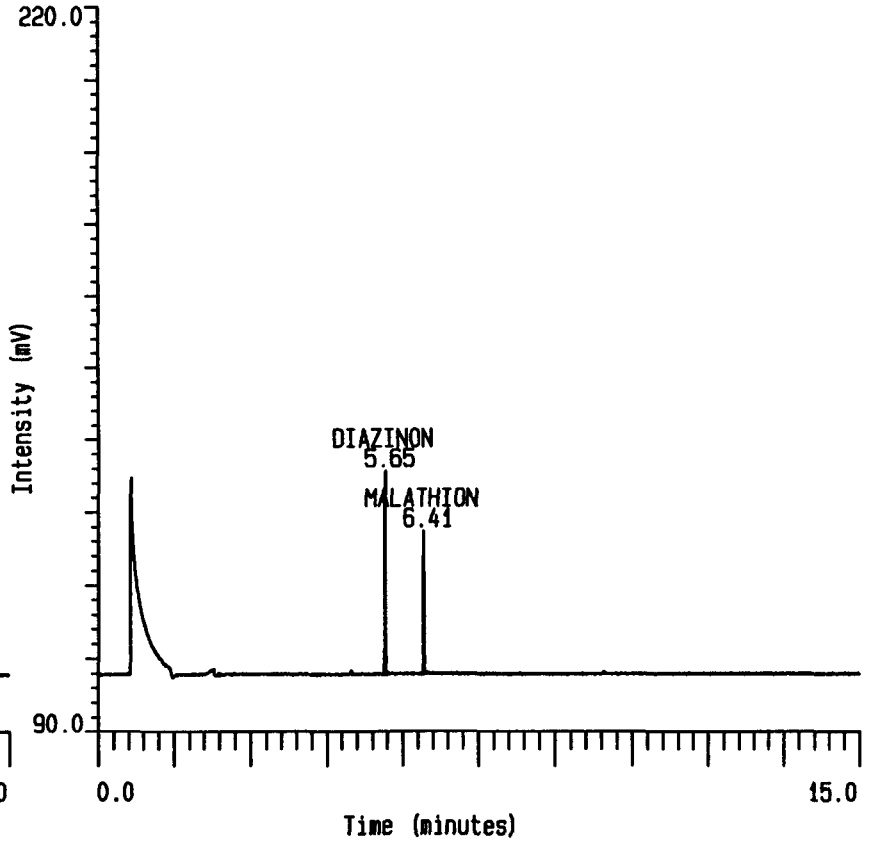
MCDO [43767] 29 SHRTS16A, 13, 1
43767-145A
Acquired on 13-Sep-1997 at 02:13

Peak Name	RT (mins)	Height	ng/mL or ug
DIAZINON	5.65	28207	7185.50391
MALATHION	6.41	26406	9867.82813



MCDO [43767] 29 SHRTS16A, 14, 1
43767-146A
Acquired on 13-Sep-1997 at 02:33

Peak Name	RT (mins)	Height	ng/mL or ug
DIAZINON	5.65	36307	9301.66992
MALATHION	6.41	25554	9538.70215



ABC Laboratories, Inc.

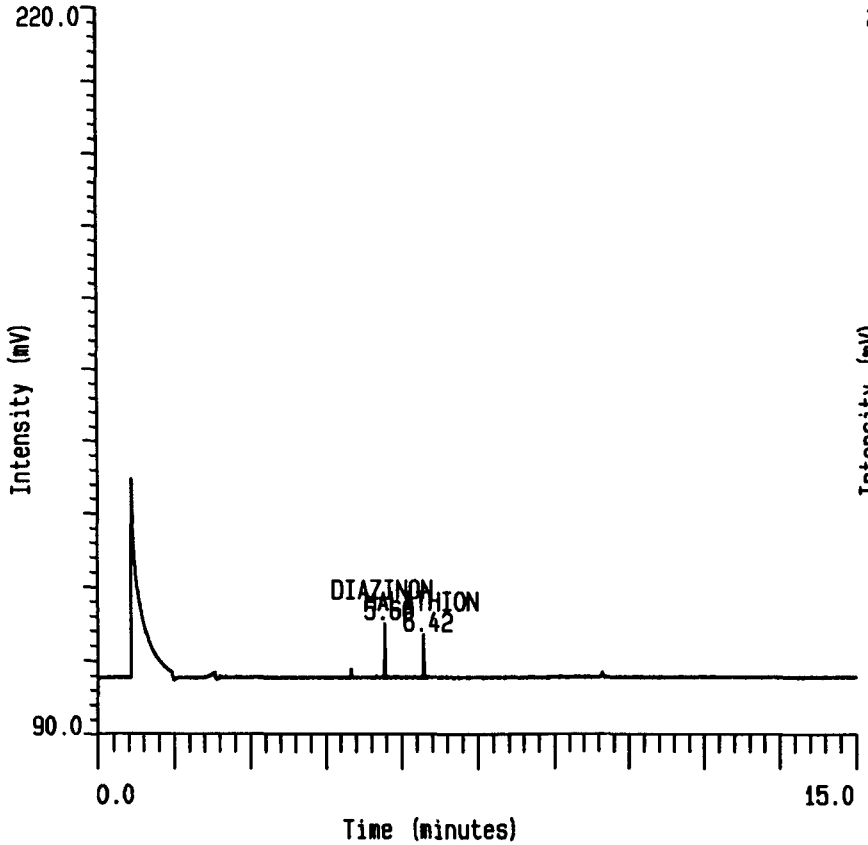
MCPP ver 2.3

43767 SHIRTS METHOD VALIDATION (THIRD SET)

Date of Report: 15 SEP 97 at 08:41:00

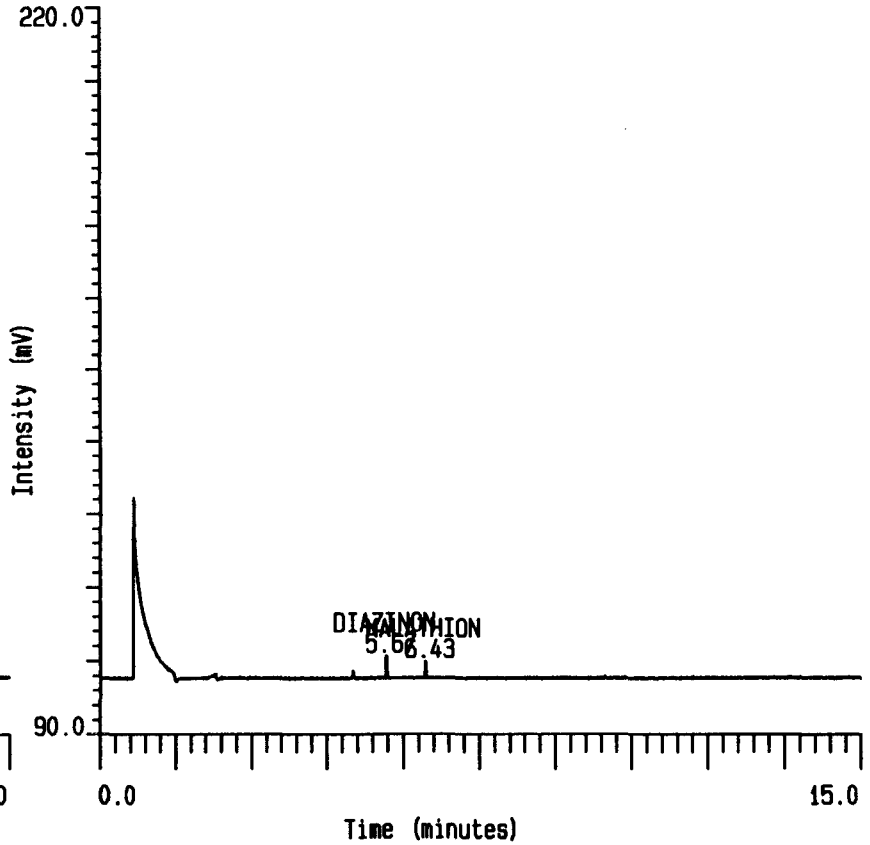
MCDO [43767] 29 SHRTS16A, 15, 1
GCMIX-G6 10.0 NG/ML STD
Acquired on 13-Sep-1997 at 02:53

Peak Name	RT (mins)	Height	ng/mL or ug
DIAZINON	5.66	9647	10.04998
MALATHION	6.42	7633	11.24858



MCDO [43767] 29 SHRTS16A, 16, 1
GCMIX-H7 4.00 NG/ML STD
Acquired on 13-Sep-1997 at 03:13

Peak Name	RT (mins)	Height	ng/mL or ug
DIAZINON	5.67	3951	3.64959
MALATHION	6.43	2989	3.53086



[43767] 29 SHRTS16A
Reported on 16-SEP-1997 at 14:58
Modified on 15-SEP-1997 at 08:29

List Calibration File

CALIBRATION HEADER INFORMATION

Calibration Title : 43767 METHOD VALIDATION (THIRD SET)
General :
Calibration type..... External standard
Units..... ng/mL or ug
Calibration base..... Height
Reference Peak Identification :
Reference window..... 5.0 %
Minimum window..... 0.50 mins
Peak threshold..... 0.0 %
Uncalibrated Peaks Response Factor :
Response factor source..... User set response factor
Response factor..... 0.0000
Additional Information :
Source library..... None
Initialise on 1st standard..... No
Variation tolerance..... 100.00 %
Calibrant Peak Identification :
Calibrant window..... 0.15 mins
Calibrant threshold..... 0.0 %
Response Factor Calibration Curve :
Curve fit..... Linear
Force through zero..... No
X transformation..... None
Y transformation..... None
Weighting..... 1 / Y
Retention Value Calibration Curve :
Curve fit..... Linear
Force through zero..... No
X transformation..... None
Y transformation..... None
Weighting..... None
Timed Calibration Curve :
Curve fit..... Linear
Force through zero..... No
X transformation..... None
Y transformation..... None
Weighting..... None
No group information entered.

[43767] 29 SHRTS16A Page 2
Reported on 16-SEP-1997 at 14:58
Modified on 15-SEP-1997 at 08:29

Peak name : DIAZINON
Expected retention time : 5.67 mins (RT range : 5.60 - 5.74 mins)
Peak window mode..... Global
Group name identifier..... ----
Peak identification mode..... Largest
Must peak..... No
Reference peak..... No
Dilution peak..... No
Retention standard..... No
Response factor mode..... Internal Levels
Purity..... 100.0000

Calibration level	Standard amount	Response factor	Calibration count
06	4.0000	987.7589	1
05	10.0000	964.7012	1
04	20.0000	1001.4479	1
03	40.0000	906.1393	1
02	60.0000	928.4528	1
01	100.0000	871.4769	1

Peak name : MALATHION
Expected retention time : 6.41 mins (RT range : 6.34 - 6.48 mins)
Peak window mode..... Global
Group name identifier..... ----
Peak identification mode..... Largest
Must peak..... No
Reference peak..... No
Dilution peak..... No
Retention standard..... No
Response factor mode..... Internal Levels
Purity..... 100.0000

Calibration level	Standard amount	Response factor	Calibration count
06	4.0000	747.1442	1
05	10.0000	763.3179	1
04	20.0000	654.2511	1
03	40.0000	617.6580	1
02	60.0000	610.6426	1
01	100.0000	610.6236	1

[43767] 29 SHRTS16B
Reported on 16-SEP-1997 at 08:32
Modified on 15-SEP-1997 at 13:29

Page 1

List Run Sequence File

ANALYST NAME..... LOREN C. SCHRIER
43767 SHIRTS METHOD VALIDATION (FOURTH SET)

ANALYSIS INFORMATION

Analysis name..... SHRTS16B
Method name..... SHRTS16B
Calibration name..... SHRTS16B
Calibration sequence..... Average Standard
User parameter 1 name..... FINAL VOLUME (ML)
User parameter 2 name..... FACTOR 1
User parameter 3 name..... FACTOR 2

SAMPLE SUMMARY

SAMPLE NUMBER	LIMS ID	SAMPLE NAME
1	----------	EQUILIBRATION
2	----------	EQUILIBRATION
3	----------	SOLVENT BLANK
4	----------	GCMIX-G2 100 NG/ML STD
5	----------	GCMIX-G3 60.0 NG/ML STD
6	----------	43767-140B
7	----------	43767-141B
8	----------	43767-142B
9	----------	GCMIX-G4 40.0 NG/ML STD
10	----------	43767-143B
11	----------	43767-144B
12	----------	GCMIX-G5 20.0 NG/ML STD
13	----------	43767-145B
14	----------	43767-146B
15	----------	GCMIX-G6 10.0 NG/ML STD
16	----------	GCMIX-H7 4.00 NG/ML STD

[43767] 29 SHRTS16B Page 2
Reported on 16-SEP-1997 at 08:32
Modified on 15-SEP-1997 at 13:29

SAMPLE INFORMATION

SAMPLE NUMBER	TYPE	CALIB LEVEL	UPDATE RT	UPDATE RF	AMOUNT	NUM INJ	BOT NUM
1	Sa	--	-	-	1.00000	1	1
2	Sa	--	-	-	1.00000	1	2
3	Sa	--	-	-	1.00000	1	3
4	St	01	N	I	1.00000	1	4
5	St	02	N	I	1.00000	1	5
6	Sa	--	-	-	1.00000	1	6
7	Sa	--	-	-	1.00000	1	7
8	Sa	--	-	-	1.00000	1	8
9	St	03	N	I	1.00000	1	9
10	Sa	--	-	-	1.00000	1	10
11	Sa	--	-	-	1.00000	1	11
12	St	04	N	I	1.00000	1	12
13	Sa	--	-	-	1.00000	1	13
14	Sa	--	-	-	1.00000	1	14
15	St	05	N	I	1.00000	1	15
16	St	06	N	I	1.00000	1	16

USER PARAMETER VALUES

SAMPLE	FINAL VOLUME (ML)	FACTOR 1	FACTOR 2
1	1.00000	1.00000	1.00000
2	1.00000	1.00000	1.00000
3	2.00000	37500.00000	125000.00000
4	1.00000	1.00000	1.00000
5	1.00000	1.00000	1.00000
6	2.00000	37500.00000	125000.00000
7	2.00000	37500.00000	125000.00000
8	2.00000	37500.00000	125000.00000
9	1.00000	1.00000	1.00000
10	4.00000	37500.00000	125000.00000
11	4.00000	37500.00000	125000.00000
12	1.00000	1.00000	1.00000
13	25.00000	581250.00000	62500.00000
14	25.00000	581250.00000	62500.00000
15	1.00000	1.00000	1.00000
16	1.00000	1.00000	1.00000

[43767] 29 SHRTS16B
Reported on 16-SEP-1997 at 08:32
Modified on 15-SEP-1997 at 13:29

INTERNAL/DILUTION STANDARDS

SAMPLE NUMBER	ISTD1 AMOUNT	ISTD2 AMOUNT	ISTD3 AMOUNT	DIL1 AMOUNT	DIL2 AMOUNT
1	1.00000	1.00000	1.00000	1.00000	1.00000
2	1.00000	1.00000	1.00000	1.00000	1.00000
3	1.00000	1.00000	1.00000	1.00000	1.00000
4	1.00000	1.00000	1.00000	1.00000	1.00000
5	1.00000	1.00000	1.00000	1.00000	1.00000
6	1.00000	1.00000	1.00000	1.00000	1.00000
7	1.00000	1.00000	1.00000	1.00000	1.00000
8	1.00000	1.00000	1.00000	1.00000	1.00000
9	1.00000	1.00000	1.00000	1.00000	1.00000
10	1.00000	1.00000	1.00000	1.00000	1.00000
11	1.00000	1.00000	1.00000	1.00000	1.00000
12	1.00000	1.00000	1.00000	1.00000	1.00000
13	1.00000	1.00000	1.00000	1.00000	1.00000
14	1.00000	1.00000	1.00000	1.00000	1.00000
15	1.00000	1.00000	1.00000	1.00000	1.00000
16	1.00000	1.00000	1.00000	1.00000	1.00000

PROCESSING ORDER

SAMPLE NUMBER	TYPE
4	Standard
5	Standard
9	Standard
12	Standard
15	Standard
16	Standard
1	Sample
2	Sample
3	Sample
6	Sample
7	Sample
8	Sample
10	Sample
11	Sample
13	Sample
14	Sample

Gas Chromatographic Instrument Parameters Form
Multichrom Channel 29

ABC Laboratory Study Number: 43767
Customer Identification: ARTF

Instrument: HP 5890 Series II Material ID# 1625-0163
Autoinjector: HP 7673B Material ID# 1625-802A

Column: HP-5MS, 30 M X 0.25 mm, 0.25 μm film thickness
Serial#: 57105214

Detector Type: FPD/P

Electrometer: Range 4

Temperatures:
- Injector (°C): 230
- Detector (°C): 230
- Column:
  - Initial Temp.(°C): 95
  - Initial Time: 1.0 min.
  - Program Rate 1: 30 °C/min to 230 °C, hold 4 min
  - Program Rate 2: 40 °C/min to 290 °C, hold 4 min

Carrier Gas Flow Rate:	He	1.6 mL/min
Septum Purge:	He	2.0 mL/min
Make Up Gas:	N_2	21 mL/min
Air Flow Rate:		98 mL/min.
Hydrogen Flow Rate:		69 mL/min.
Purge Valve:	Off at 0 min, on at 0.75 min	

Injection Volume: 2 μL

Run Sequence File: Shrts 16 B

Quantitation Standards: GCMIX-G2→GCMIX-G6 Inclusive, GCMIX-H7

Prepared By: CY Guo Date: 9-15-97

Checked By: Barbara J Bryant Date: 23 Sep 97

MCDO [43767] 29 SHRTS16B

ABC Laboratories, Inc.
Sample Information Report ver 3.3

Report Date: 16 SEP 97 at 08:41:10
Page 1

Sample Name	No.	Type	Level	User Parameter 1 FINAL VOLUME (ML)	User Parameter 2 FACTOR 1	User Parameter 3 FACTOR 2
EQUILIBRATION	1	SA		1.00000	1.00000	1.00000
EQUILIBRATION	2	SA		1.00000	1.00000	1.00000
SOLVENT BLANK	3	SA		2.00000	37500.00000	125000.00000
GCMIX-G2 100 NG/ML STD	4	ST	01	1.00000	1.00000	1.00000
GCMIX-G3 60.0 NG/ML STD	5	ST	02	1.00000	1.00000	1.00000
43767-140B	6	SA		2.00000	37500.00000	125000.00000
43767-141B	7	SA		2.00000	37500.00000	125000.00000
43767-142B	8	SA		2.00000	37500.00000	125000.00000
GCMIX-G4 40.0 NG/ML STD	9	ST	03	1.00000	1.00000	1.00000
43767-143B	10	SA		4.00000	37500.00000	125000.00000
43767-144B	11	SA		4.00000	37500.00000	125000.00000
GCMIX-G5 20.0 NG/ML STD	12	ST	04	1.00000	1.00000	1.00000
43767-145B	13	SA		25.00000	581250.00000	62500.00000
43767-146B	14	SA		25.00000	581250.00000	62500.00000
GCMIX-G6 10.0 NG/ML STD	15	ST	05	1.00000	1.00000	1.00000
GCMIX-H7 4.00 NG/ML STD	16	ST	06	1.00000	1.00000	1.00000

MCDO [43767] 29 SHRTS16B

ABC Laboratories, Inc.
Results Information Report ver 3.3
Component Name: DIAZINON

Report Date: 16 SEP 97
Time: 08:41:10
Page: 1

Sample Name	SMP #	INJ #	RT(mins)	Height	ng/mL or ug	CAL. RANG	Peak Type	Bad INJ
EQUILIBRATION	1	1	5.66	32583	37.01230		OB	---
EQUILIBRATION	2	1	5.66	35386	40.21411		OBF	---
SOLVENT BLANK	3	1	0.00	0	0.00000	UNDR	O	---
GCMIX-G2 100 NG/ML STD	4	1	5.65	89915	102.48602		OB	---
GCMIX-G3 60.0 NG/ML STD	5	1	5.65	50046	56.95592		OB	---
43767-140B	6	1	0.00	0	0.00000	UNDR	OB	---
43767-141B	7	1	5.65	7958	5.33464		OB	---
43767-142B	8	1	5.65	8559	5.74679		OF	---
GCMIX-G4 40.0 NG/ML STD	9	1	5.65	36034	40.95380		O	---
43767-143B	10	1	5.65	40357	55.06861		OB	---
43767-144B	11	1	5.66	38139	52.02878		O	---
GCMIX-G5 20.0 NG/ML STD	12	1	5.65	17222	19.47073		O	---
43767-145B	13	1	5.65	37202	9831.91504		OB	---
43767-146B	14	1	5.65	35533	9388.79980		OB	---
GCMIX-G6 10.0 NG/ML STD	15	1	5.66	9325	10.45187		OB	---
GCMIX-H7 4.00 NG/ML STD	16	1	5.66	3640	3.95989		O	---

MCDO [43767] 29 SHRTS16B

ABC Laboratories, Inc.
Results Information Report ver 3.3
Component Name: MALATHION

Report Date: 16 SEP 97
Time: 08:41:10
Page: 1

Sample Name	SMP #	INJ #	RT(mins)	Height	ng/mL or ug	CAL. RANG	Peak Type	Bad INJ
EQUILIBRATION	1	1	6.43	22304	37.24208		OB	---
EQUILIBRATION	2	1	6.42	25760	43.12037		OB	---
SOLVENT BLANK	3	1	0.00	0	0.00000	UNDR	OB	---
GCMIX-G2 100 NG/ML STD	4	1	6.41	60784	102.70323		OB	---
GCMIX-G3 60.0 NG/ML STD	5	1	6.41	33777	56.75921		O	---
43767-140B	6	1	0.00	0	0.00000	UNDR	OBF	---
43767-141B	7	1	6.42	5878	5.57853		O	---
43767-142B	8	1	6.41	5527	5.22022		OB	---
GCMIX-G4 40.0 NG/ML STD	9	1	6.41	24046	40.20539		OB	---
43767-143B	10	1	6.41	28772	57.89378		OB	---
43767-144B	11	1	6.42	27075	54.42862		OBF	---
GCMIX-G5 20.0 NG/ML STD	12	1	6.42	11846	19.45042		OB	---
43767-145B	13	1	6.42	25459	9906.43848		OB	---
43767-146B	14	1	6.41	25042	9741.42773		OB	---
GCMIX-G6 10.0 NG/ML STD	15	1	6.42	7407	11.89923		O	---
GCMIX-H7 4.00 NG/ML STD	16	1	6.42	2516	3.57954		OF	---

Acquisition and Peak Processing Parameters Report Print Date and Time : 16 SEP 97 09:01:15
Version 2 Page : 1
MCDO [43767] 29 SHRTS16B Based on Sample Number : 1 Injection Number : 1

ACQUISITION PARAMETERS
Data Collection :
Length of Run..... 14.99 mins
Post Injection Delay..... 0.00 mins
Sampling Rate..... 15.00 Hz
Baseline Offset :
Adjust Baseline..... Yes
Baseline Offset..... 10.00 %

PEAK PROCESSING PARAMETERS
Auto Process Parameters :
Peak Threshold..... 0.50
Baseline Test..... 4
Peak Trend..... 4
Separation Parameters :
Shoulder Sensitivity..... 0.10
Rider Sensitivity..... 0.05
Rejection Parameters :
Minimum Peak Width..... 0.00 secs
Minimum Peak Height..... 500.00 uV
Minimum Peak Area..... 1000.00 uVs
Ignore Flat Top Peak..... No
User Imposed Action Control :
Forced Baseline..... No
Suppress Integration..... Yes
Tangent Skimming..... No
Shoulder Detection..... No
Data Bunching..... No
Negative Detection..... No
Integration Modes :
Retention Time Integration..... No
Square Root Area and Height..... No

PROCESSING ACTIONS

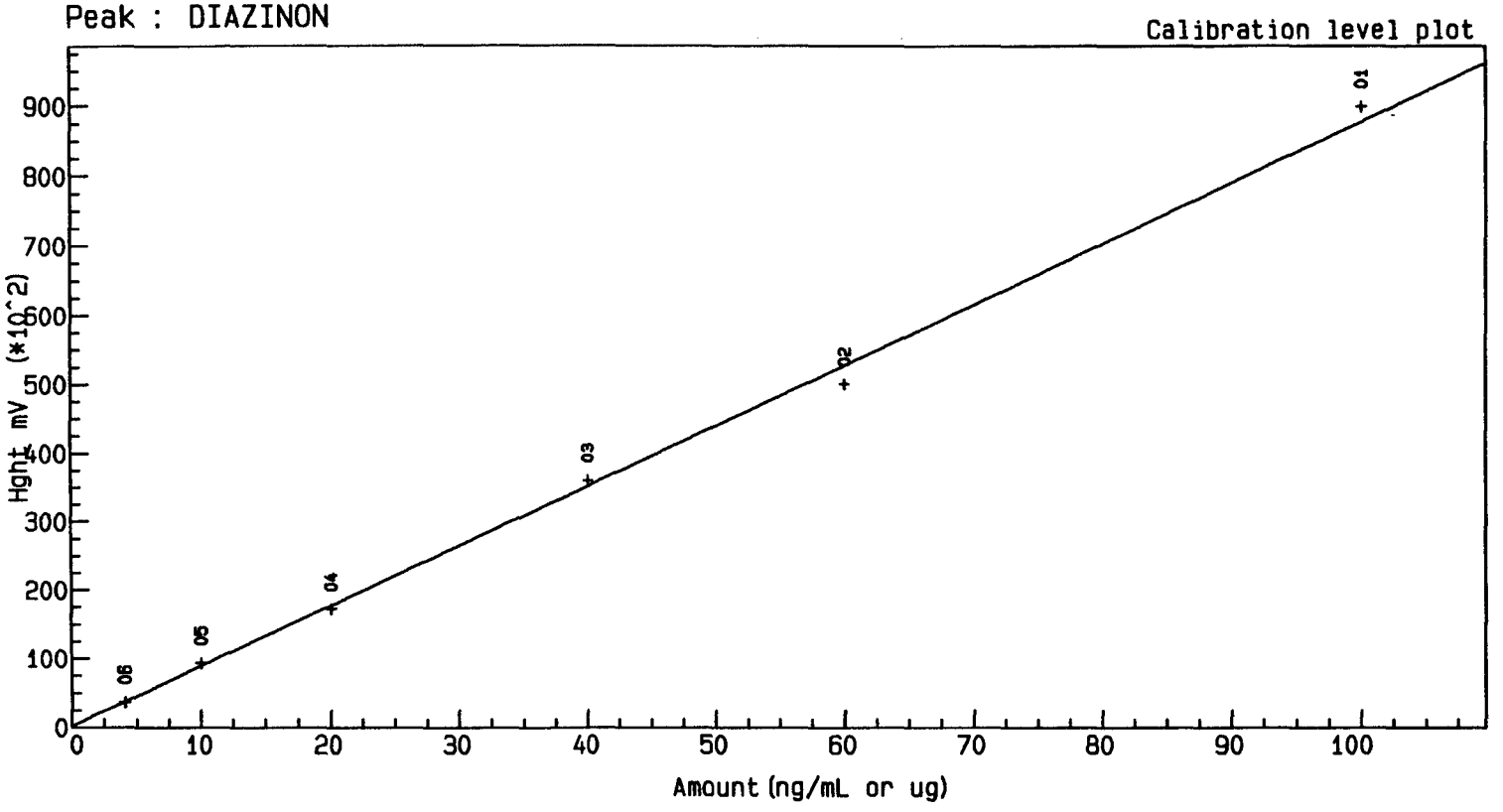
Time (mins)	Force Baseline	Integrate Suppress	Tangent Skim	Bunch Size	Shoulder Detect	Negative Detect
0.00	--	SI	_	0	--	--
5.50	--	ES	_	0	--	--
7.50	--	SI	_	0	--	--

Calibration last modified on 16-Sep-1997 at 08:37
Calibration Sequence..... AVERAGE

These parameters apply to all injections of set SHRTS16B with no exceptions

ABC Laboratories, Inc. Multichrom ver 1.8-2

Calibration Name : 29 SHRTS16B.
43767 METHOD VALIDATION (FOURTH SET)
Peak : DIAZINON



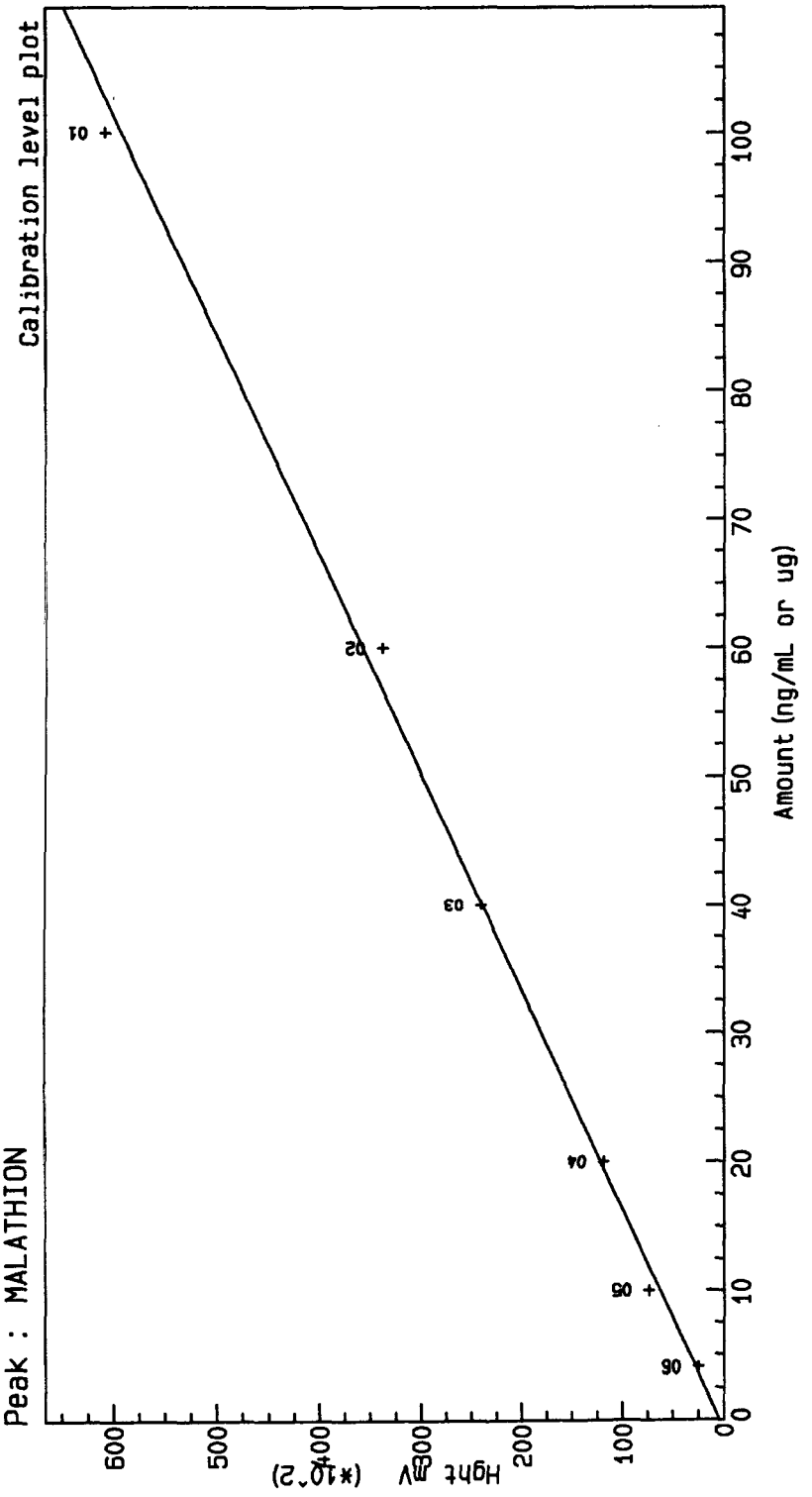
Constant : 1.72440E+2
1st degree : 8.75657E+2

Curve fit : Linear
Correlation coefficient : 0.99876
Standard error : 1.79682E+3

Reported on 16-SEP-1997 at 09: 14

ABC Laboratories, Inc. Multichrom ver 1.8-2

Calibration Name : 29 SHRTS16B.
43767 METHOD VALIDATION (FOURTH SET)
Peak : MALATHION



Constant : 4.12288E+2
1st degree : 5.87831E+2

Curve fit : Linear
Correlation coefficient : 0.99837
Standard error : 1.37665E+3

Reported on 16-SEP-1997 at 09:14

ABC Laboratories, Inc.

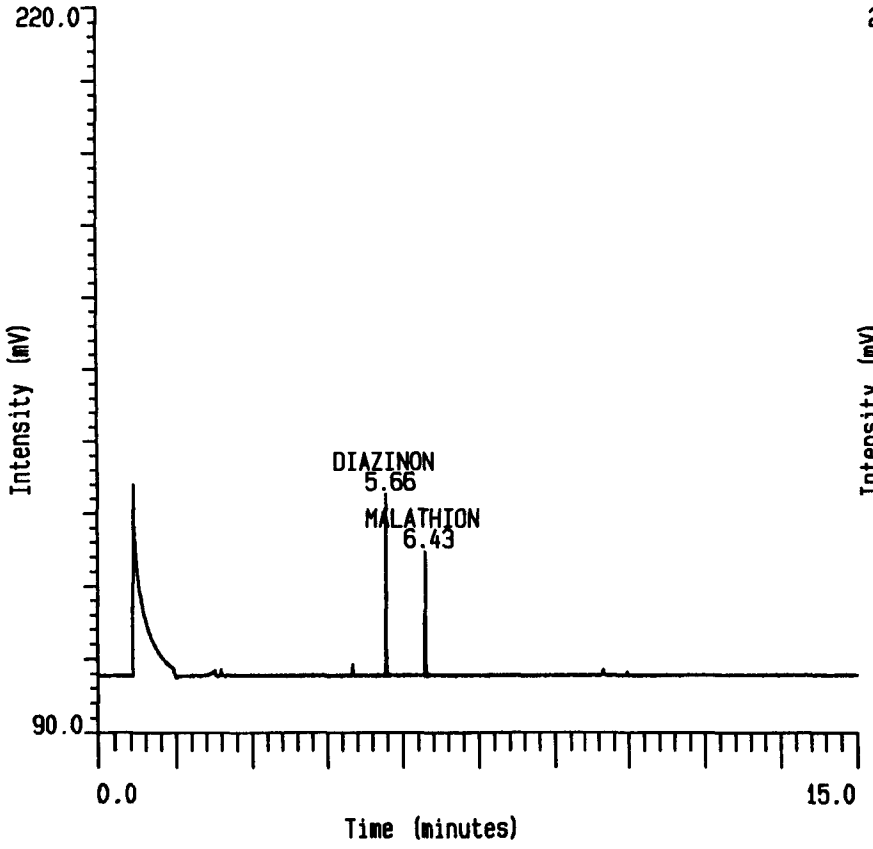
MCPP ver 2.3

43767 SHIRTS METHOD VALIDATION (FOURTH SET)

Date of Report: 16 SEP 97 at 09:15:20

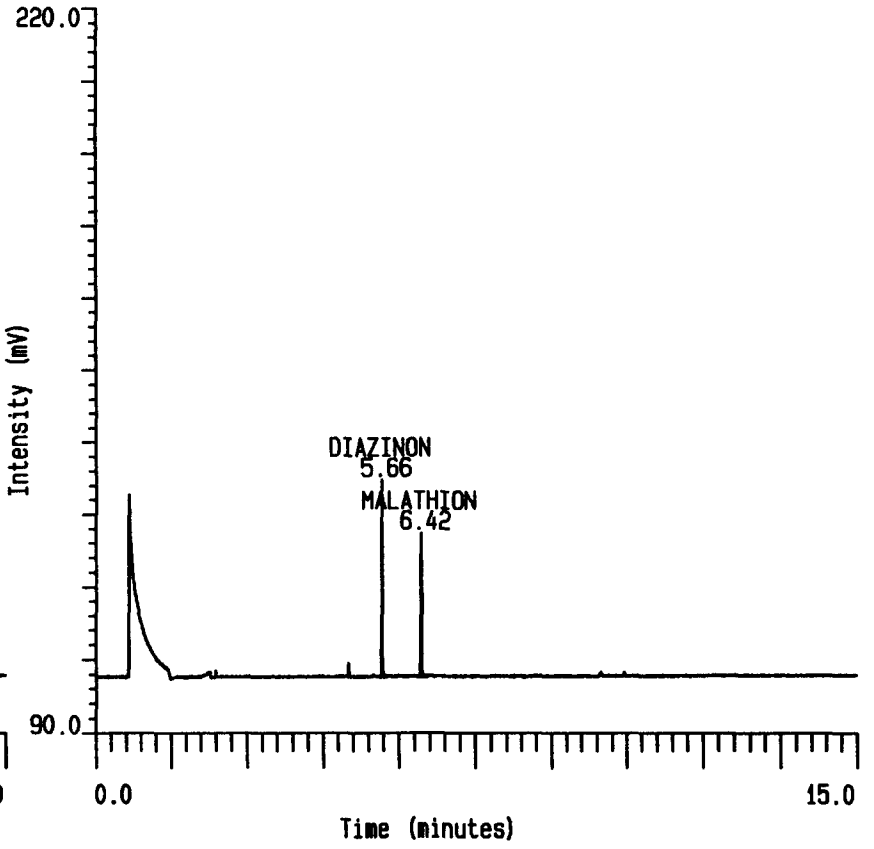
MCDO [43767] 29 SHRTS16B, 1, 1
EQUILIBRATION
Acquired on 15-Sep-1997 at 16:29

Peak Name	RT (mins)	Height	ng/mL or ug
DIAZINON	5.66	32583	37.01230
MALATHION	6.43	22304	37.24208



MCDO [43767] 29 SHRTS16B, 2, 1
EQUILIBRATION
Acquired on 15-Sep-1997 at 16:49

Peak Name	RT (mins)	Height	ng/mL or ug
DIAZINON	5.66	35386	40.21411
MALATHION	6.42	25760	43.12037



ABC Laboratories, Inc.

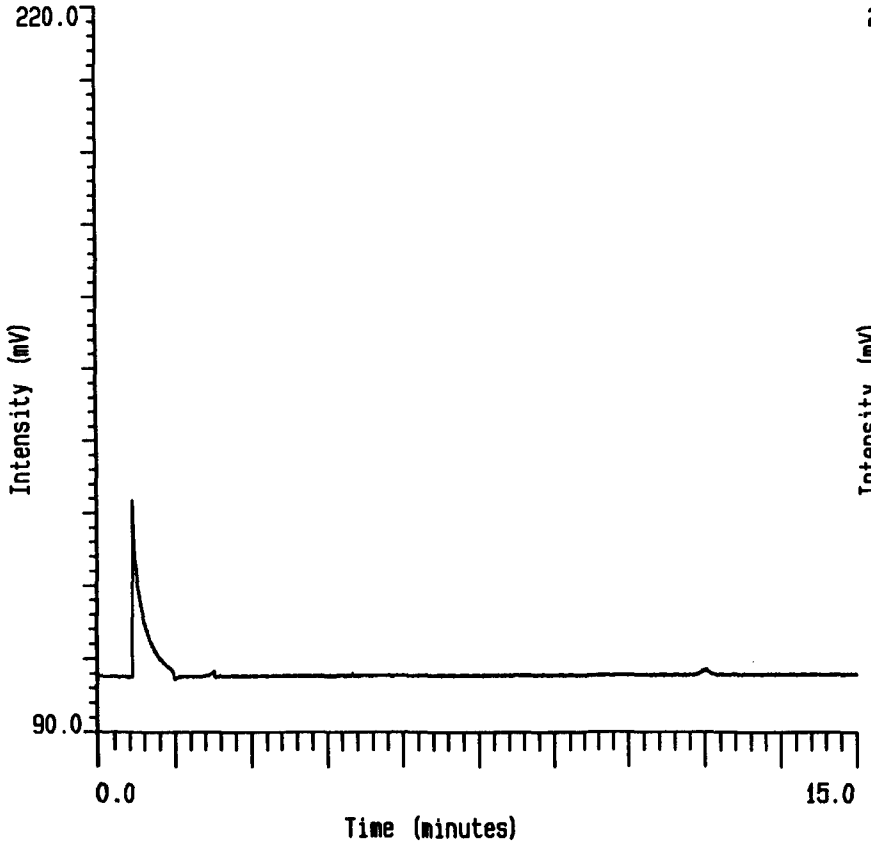
MCPP ver 2.3

43767 SHIRTS METHOD VALIDATION (FOURTH SET)

Date of Report: 16 SEP 97 at 09:15:20

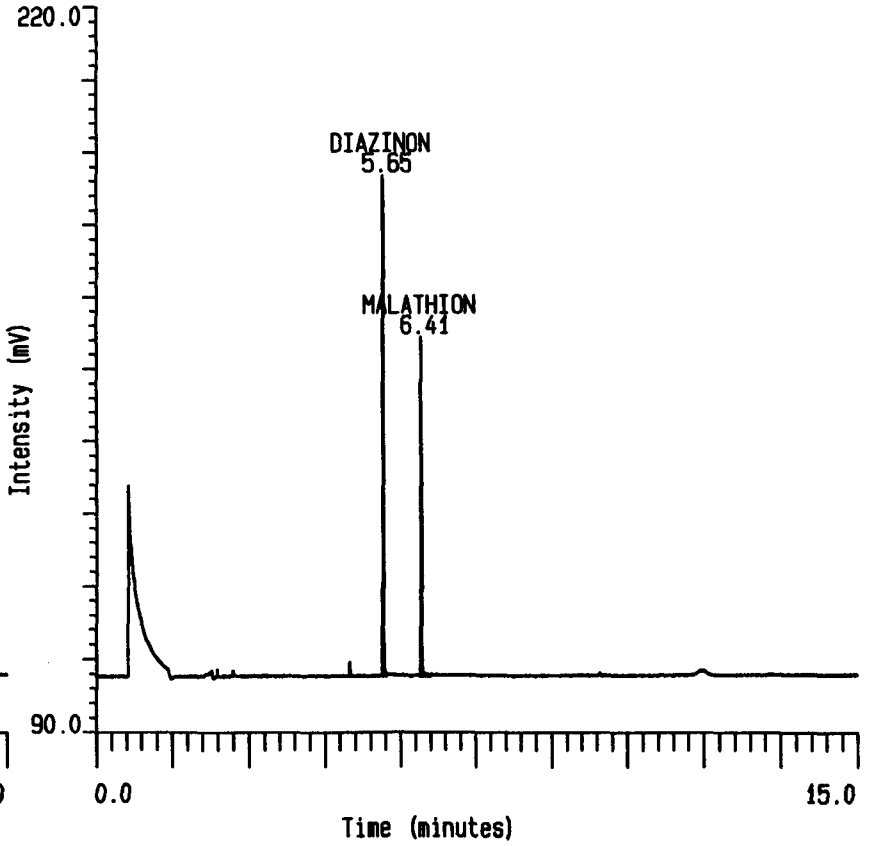
MCDO [43767] 29 SHRTS16B,3,1
SOLVENT BLANK
Acquired on 15-Sep-1997 at 17:09

Peak Name	RT (mins)	Height	ng/mL or ug
DIAZINON	0.00	0	0
MALATHION	0.00	0	0



MCDO [43767] 29 SHRTS16B,4,1
GCMIX-G2 100 NG/ML STD
Acquired on 15-Sep-1997 at 17:29

Peak Name	RT (mins)	Height	ng/mL or ug
DIAZINON	5.65	89915	102.48602
MALATHION	6.41	60784	102.70323



ABC Laboratories, Inc.

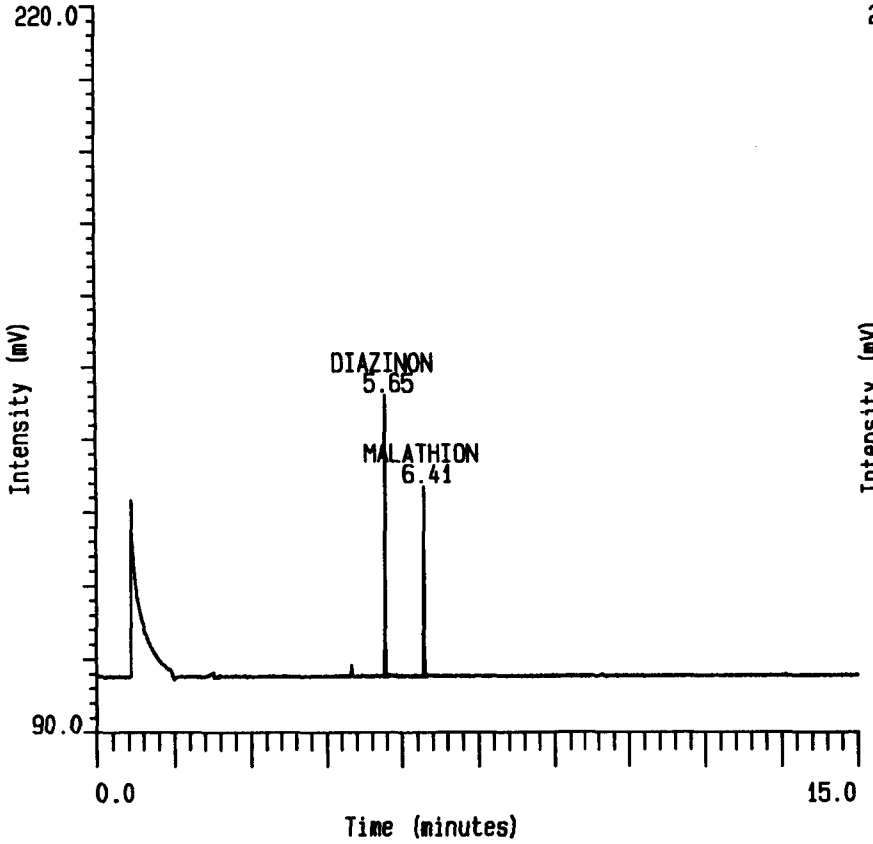
MCPP ver 2.3

43767 SHIRTS METHOD VALIDATION (FOURTH SET)

Date of Report: 16 SEP 97 at 09:15:20

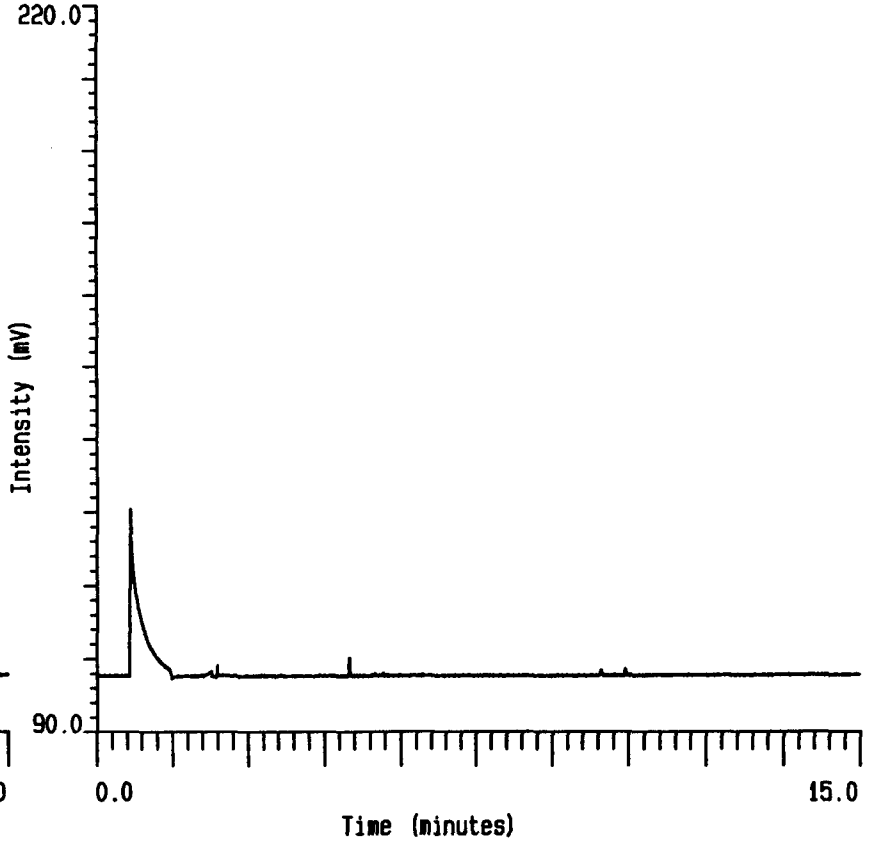
MCDO [43767] 29 SHRTS16B,5,1
GCMIX-G3 60.0 NG/ML STD
Acquired on 15-Sep-1997 at 17:50

Peak Name	RT (mins)	Height	ng/mL or ug
DIAZINON	5.65	50046	56.95592
MALATHION	6.41	33777	56.75921



MCDO [43767] 29 SHRTS16B,6,1
43767-140B
Acquired on 15-Sep-1997 at 18:10

Peak Name	RT (mins)	Height	ng/mL or ug
DIAZINON	0.00	0	0
MALATHION	0.00	0	0



ABC Laboratories, Inc.

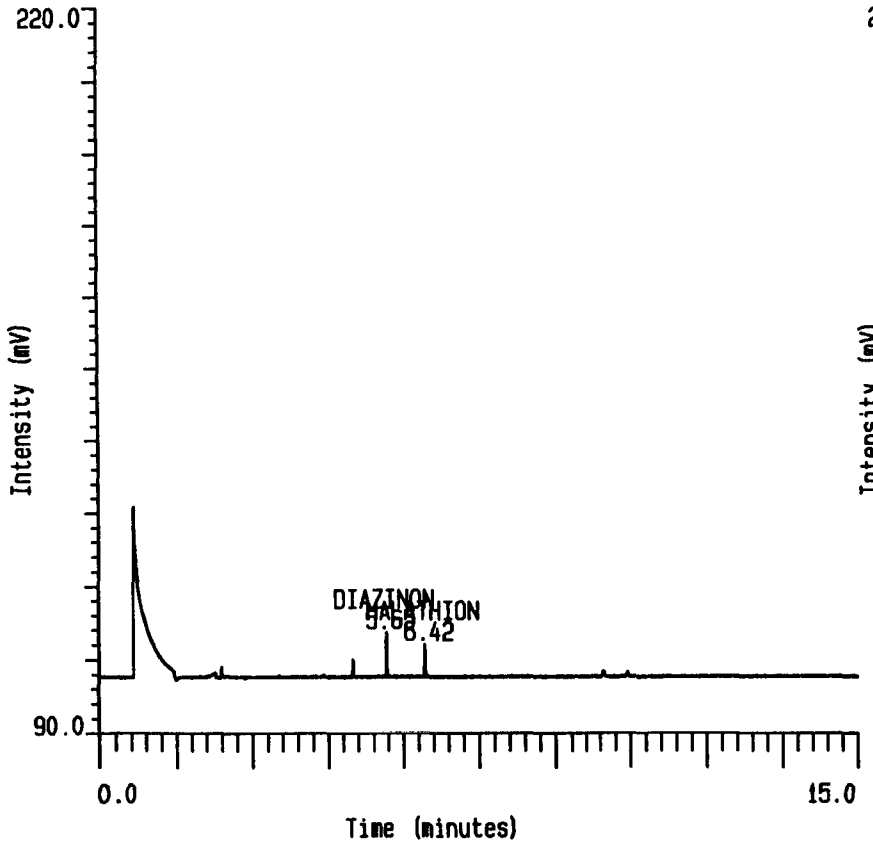
MCPP ver 2.3

43767 SHIRTS METHOD VALIDATION (FOURTH SET)

Date of Report: 16 SEP 97 at 09:15:20

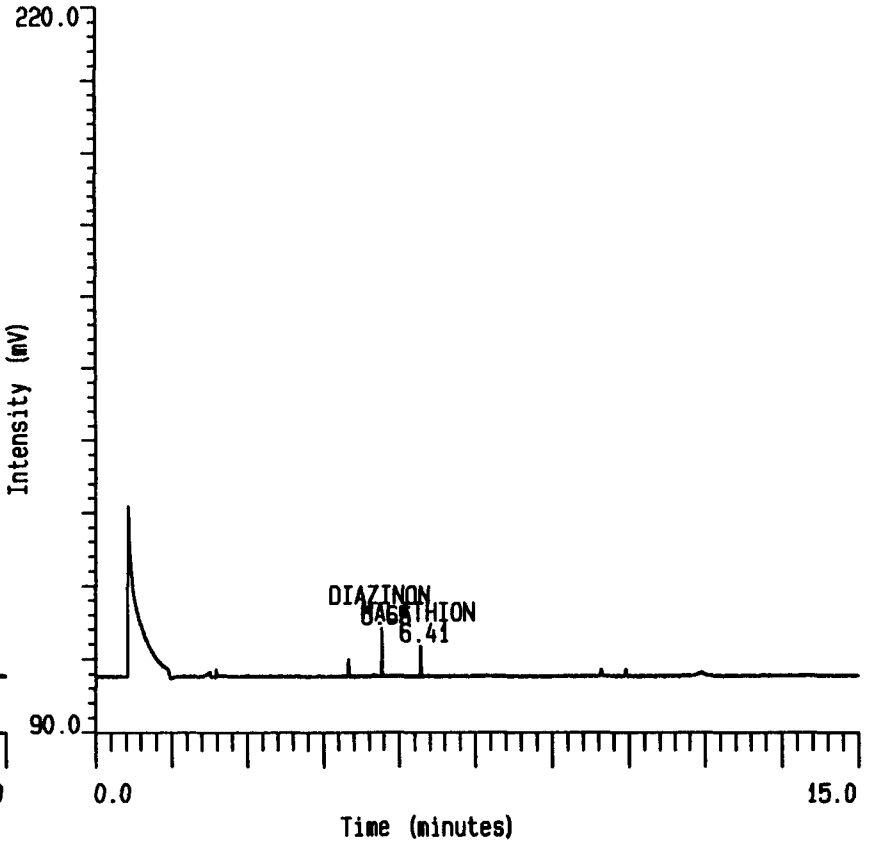
MCDO [43767] 29 SHRTS16B,7,1
43767-141B
Acquired on 15-Sep-1997 at 18:30

Peak Name	RT (mins)	Height	ng/mL or ug
DIAZINON	5.65	7958	5.33464
MALATHION	6.42	5878	5.57853



MCDO [43767] 29 SHRTS16B,8,1
43767-142B
Acquired on 15-Sep-1997 at 18:50

Peak Name	RT (mins)	Height	ng/mL or ug
DIAZINON	5.65	8559	5.74679
MALATHION	6.41	5527	5.22022



ABC Laboratories, Inc.

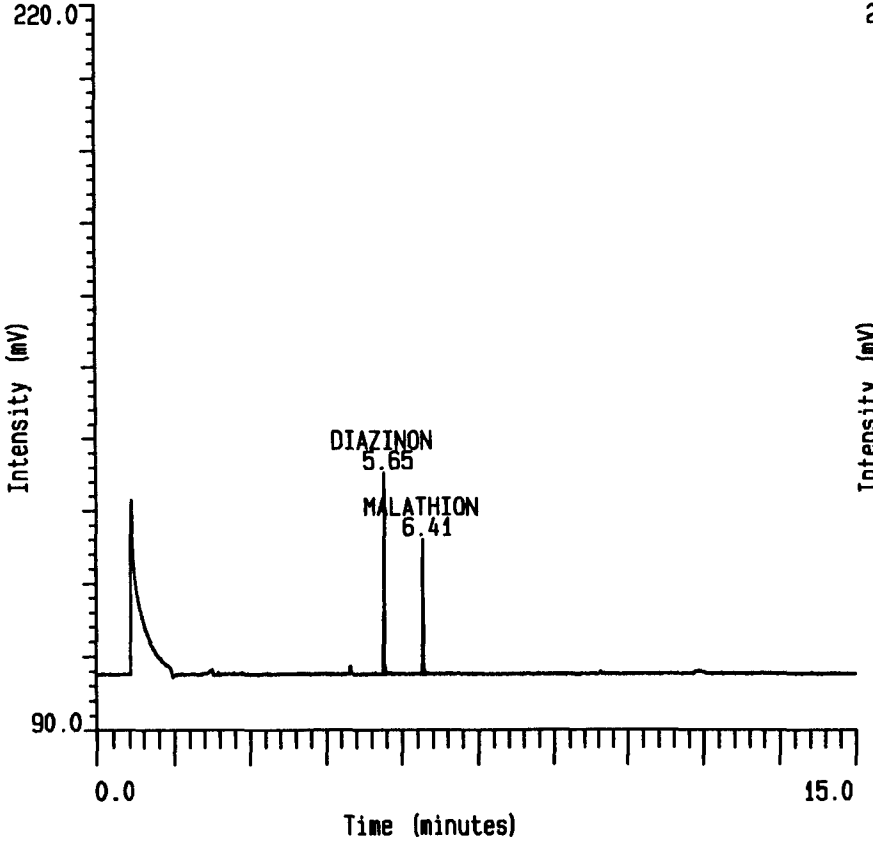
MCPP ver 2.3

43767 SHIRTS METHOD VALIDATION (FOURTH SET)

Date of Report: 16 SEP 97 at 09:15:20

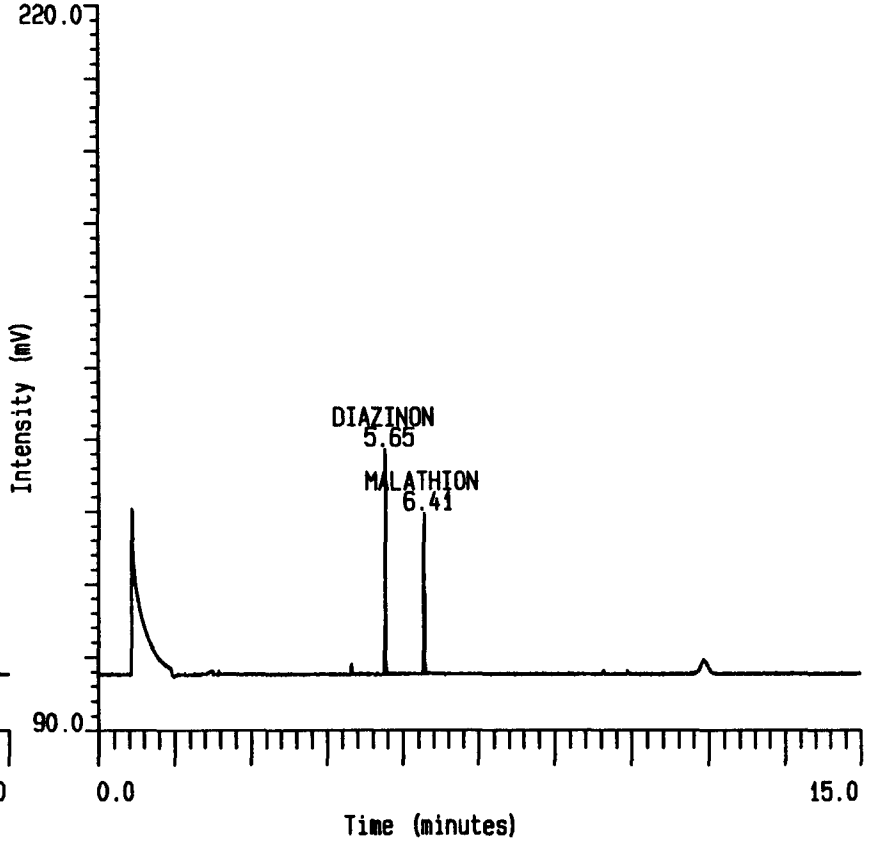
MCDO [43767] 29 SHRTS16B,9,1
GCMIX-G4 40.0 NG/ML STD
Acquired on 15-Sep-1997 at 19:11

Peak Name	RT (mins)	Height	ng/mL or ug
DIAZINON	5.65	36034	40.95380
MALATHION	6.41	24046	40.20539



MCDO [43767] 29 SHRTS16B,10,1
43767-143B
Acquired on 15-Sep-1997 at 19:31

Peak Name	RT (mins)	Height	ng/mL or ug
DIAZINON	5.65	40357	55.06861
MALATHION	6.41	28772	57.89378



ABC Laboratories, Inc.

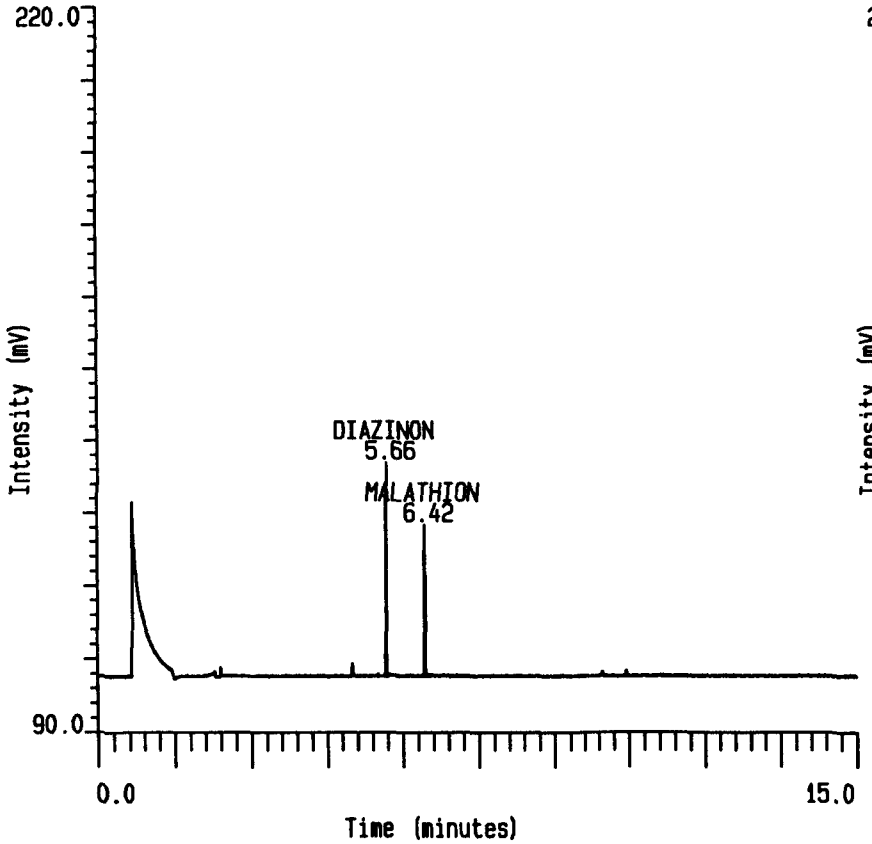
MCPP ver 2.3

43767 SHIRTS METHOD VALIDATION (FOURTH SET)

Date of Report: 16 SEP 97 at 09:15:20

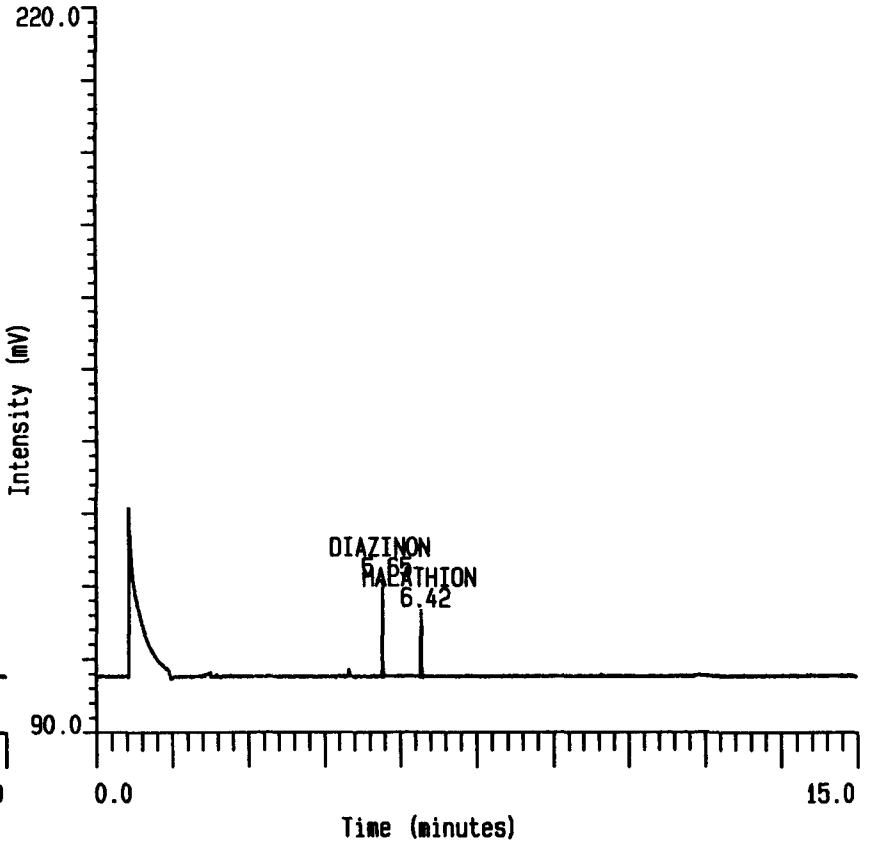
MCDO [43767] 29 SHRTS16B, 11, 1
43767-144B
Acquired on 15-Sep-1997 at 19:51

Peak Name	RT (mins)	Height	ng/mL or ug
DIAZINON	5.66	38139	52.02878
MALATHION	6.42	27075	54.42862



MCDO [43767] 29 SHRTS16B, 12, 1
GCMIX-G5 20.0 NG/ML STD
Acquired on 15-Sep-1997 at 20:11

Peak Name	RT (mins)	Height	ng/mL or ug
DIAZINON	5.65	17222	19.47073
MALATHION	6.42	11846	19.45042



ABC Laboratories, Inc.

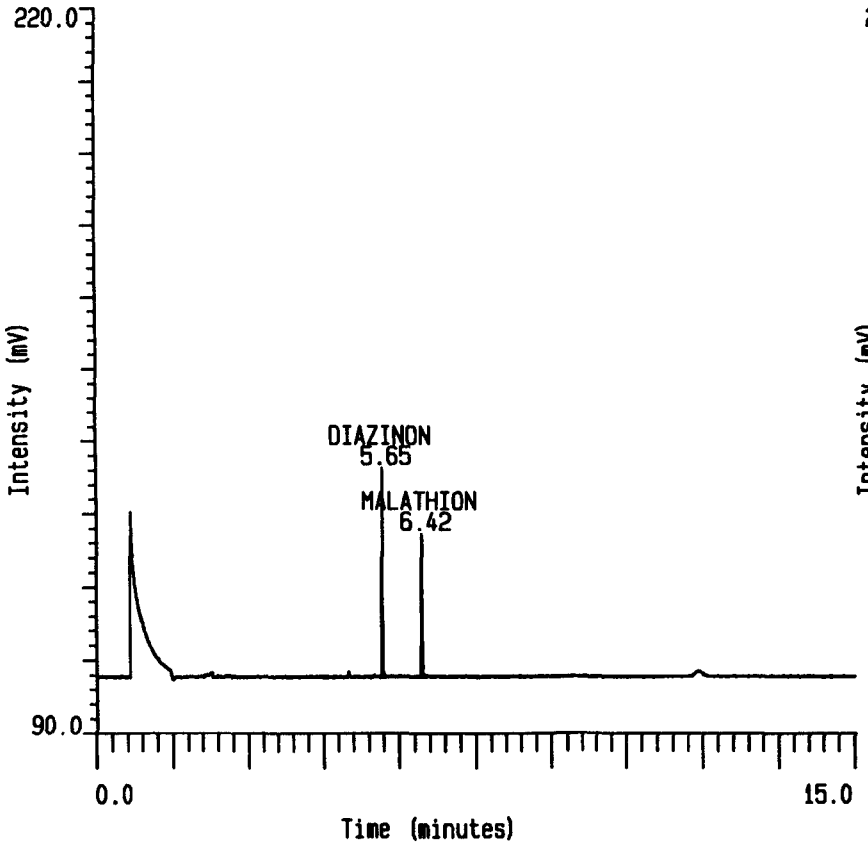
MCPP ver 2.3

43767 SHIRTS METHOD VALIDATION (FOURTH SET)

Date of Report: 16 SEP 97 at 09:15:20

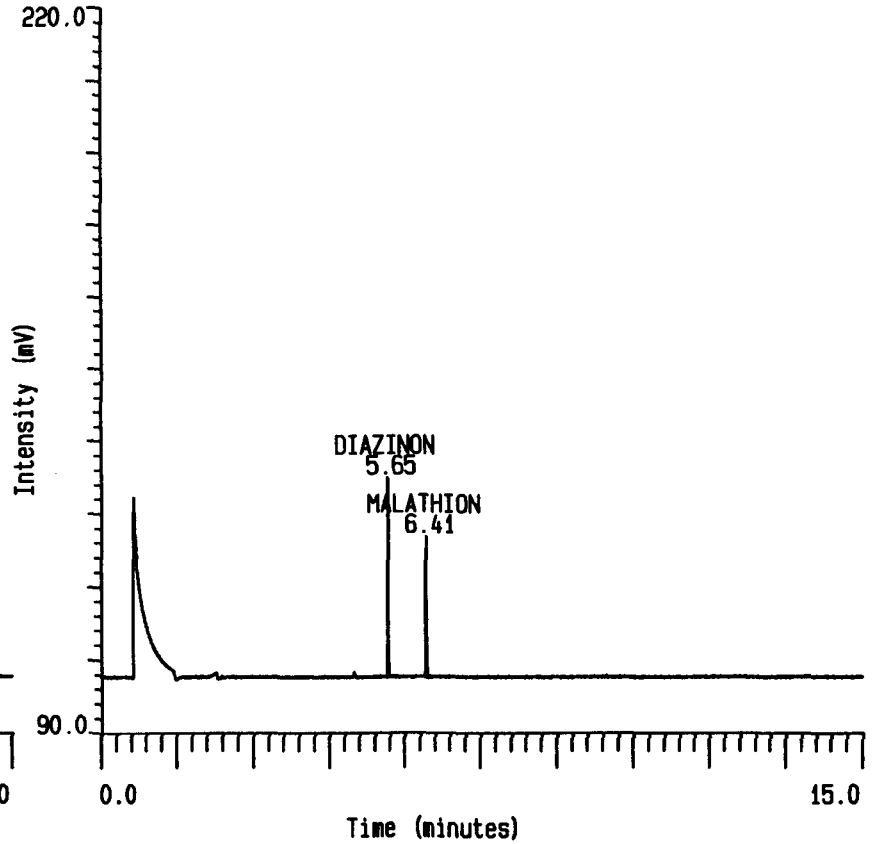
MCDO [43767] 29 SHRTS16B, 13, 1
43767-145B
Acquired on 15-Sep-1997 at 20:31

Peak Name	RT (mins)	Height	ng/mL or ug
DIAZINON	5.65	37202	9831.91504
MALATHION	6.42	25459	9906.43848



MCDO [43767] 29 SHRTS16B, 14, 1
43767-146B
Acquired on 15-Sep-1997 at 20:52

Peak Name	RT (mins)	Height	ng/mL or ug
DIAZINON	5.65	35533	9388.79980
MALATHION	6.41	25042	9741.42773



ABC Laboratories, Inc.

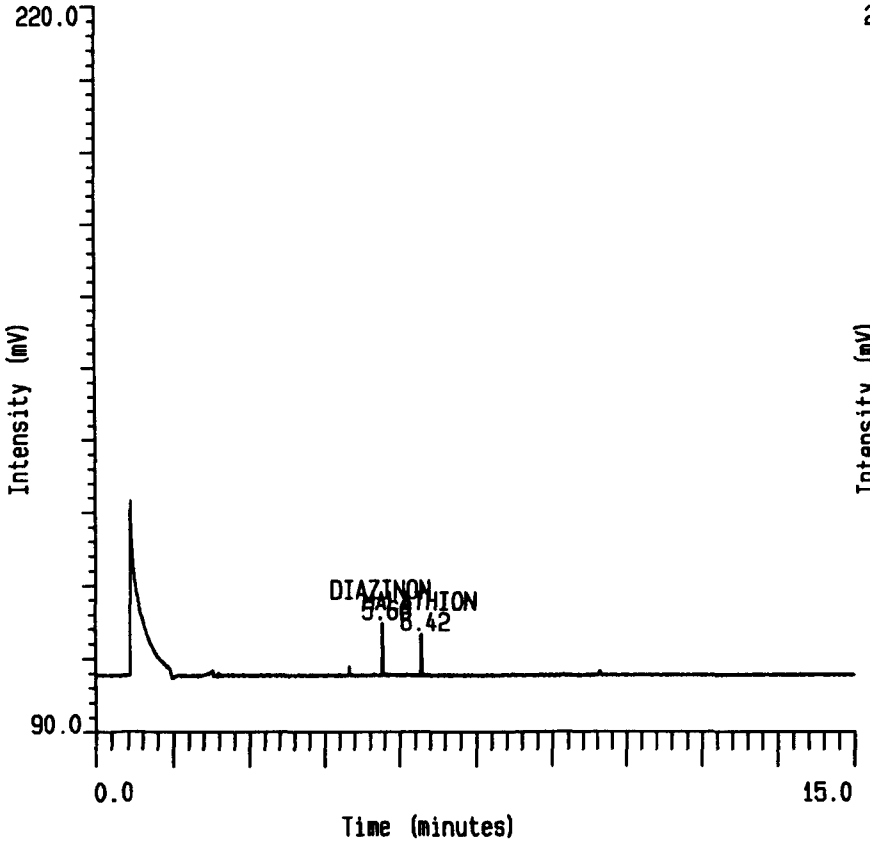
MCPP ver 2.3

43767 SHIRTS METHOD VALIDATION (FOURTH SET)

Date of Report: 16 SEP 97 at 09:15:20

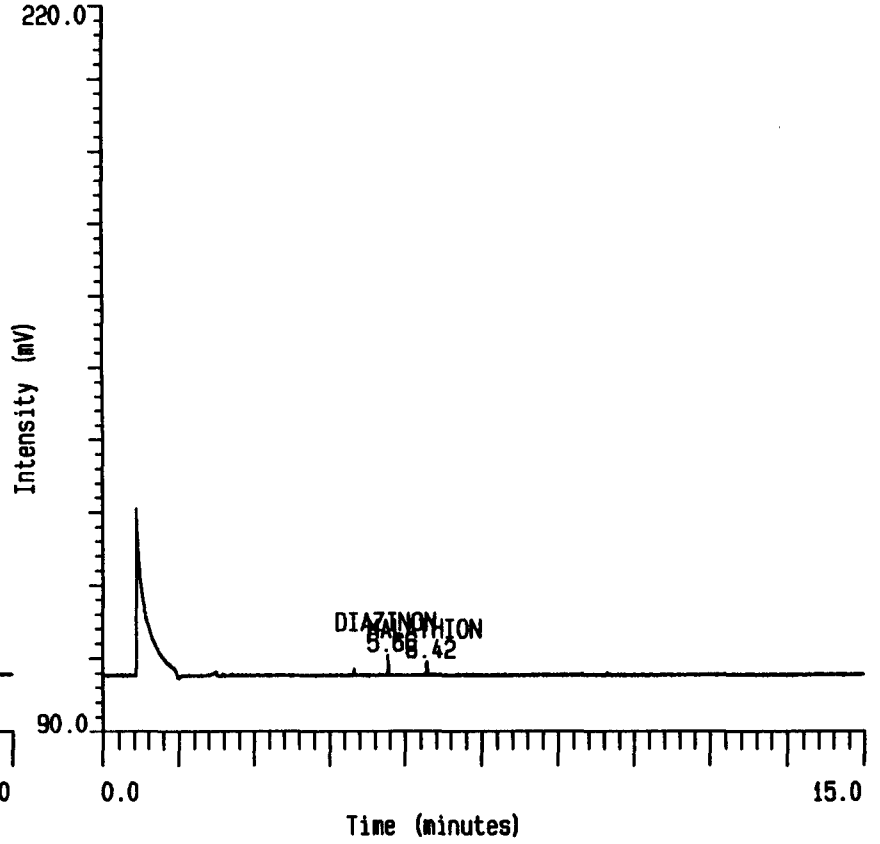
MCDO [43767] 29 SHRTS16B, 15, 1
GCMIX-G6 10.0 NG/ML STD
Acquired on 15-Sep-1997 at 21:12

Peak Name	RT (mins)	Height	ng/mL or ug
DIAZINON	5.66	9325	10.45187
MALATHION	6.42	7407	11.89923



MCDO [43767] 29 SHRTS16B, 16, 1
GCMIX-H7 4.00 NG/ML STD
Acquired on 15-Sep-1997 at 21:32

Peak Name	RT (mins)	Height	ng/mL or ug
DIAZINON	5.66	3640	3.95989
MALATHION	6.42	2516	3.57954



[43767] 29 SHRTS16B
Reported on 16-SEP-1997 at 14:58
Modified on 16-SEP-1997 at 08:37

Page 1

List Calibration File

CALIBRATION HEADER INFORMATION

Calibration Title : 43767 METHOD VALIDATION (FOURTH SET)
General :
Calibration type..... External standard
Units..... ng/mL or ug
Calibration base..... Height
Reference Peak Identification :
Reference window..... 5.0 %
Minimum window..... 0.50 mins
Peak threshold..... 0.0 %
Uncalibrated Peaks Response Factor :
Response factor source..... User set response factor
Response factor..... 0.0000
Additional Information :
Source library..... None
Initialise on 1st standard..... No
Variation tolerance..... 100.00 %
Calibrant Peak Identification :
Calibrant window..... 0.15 mins
Calibrant threshold..... 0.0 %
Response Factor Calibration Curve :
Curve fit..... Linear
Force through zero..... No
X transformation..... None
Y transformation..... None
Weighting..... 1 / Y
Retention Value Calibration Curve :
Curve fit..... Linear
Force through zero..... No
X transformation..... None
Y transformation..... None
Weighting..... None
Timed Calibration Curve :
Curve fit..... Linear
Force through zero..... No
X transformation..... None
Y transformation..... None
Weighting..... None
No group information entered.

[43767] 29 SHRTS16B Page 2
Reported on 16-SEP-1997 at 14:58
Modified on 16-SEP-1997 at 08:37

Peak name : DIAZINON
Expected retention time : 5.67 mins (RT range : 5.60 - 5.74 mins)
Peak window mode..... Global
Group name identifier..... ----
Peak identification mode..... Largest
Must peak..... No
Reference peak..... No
Dilution peak..... No
Retention standard..... No
Response factor mode..... Internal Levels
Purity..... 100.0000

Calibration level	Standard amount	Response factor	Calibration count
06	4.0000	909.9860	1
05	10.0000	932.4692	1
04	20.0000	861.1061	1
03	40.0000	900.8483	1
02	60.0000	834.1050	1
01	100.0000	899.1506	1

Peak name : MALATHION
Expected retention time : 6.41 mins (RT range : 6.34 - 6.48 mins)
Peak window mode..... Global
Group name identifier..... ----
Peak identification mode..... Largest
Must peak..... No
Reference peak..... No
Dilution peak..... No
Retention standard..... No
Response factor mode..... Internal Levels
Purity..... 100.0000

Calibration level	Standard amount	Response factor	Calibration count
06	4.0000	629.1140	1
05	10.0000	740.7032	1
04	20.0000	592.2928	1
03	40.0000	601.1570	1
02	60.0000	562.9522	1
01	100.0000	607.8447	1

Attachment 6. Validation Data for Outer Dermal Dosimeter Pant Method ARTF-AM-008

Summary Results for Outer Pants Dosimeters Method Validation - Diazinon
Reference Multichrom files Pants12 and Pants15

Sample ID	Data Set ID	Sample Description	Diazinon Fortification Level (ug/segment)	Diazinon Recovery (ug/segment)	% Recovery (1)
43767-098	PANTS15	Control Lower Legs	NA	0.765	
43767-099	PANTS15	Upper Legs + nominal 5 ug each	5.00	6.07	106%
43767-100	PANTS15	Lower Legs + nominal 5 ug each	5.00	5.64	97.5%
43767-101	PANTS15	Upper Legs + nominal 50 ug each	50.0	47.1	92.7%
43767-102	PANTS15	Lower Legs + nominal 50 ug each	50.0	44.3	87.1%
43767-103	PANTS15	Upper Legs + nominal 10000 ug each	10000	8290	82.9%
43767-104	PANTS15	Lower Legs + nominal 10000 ug each	10000	8620	86.2%
43767-107	PANTS15	Upper Legs + nominal 5 ug each	5.00	5.46	97.0%
43767-105	PANTS12	Control Upper Legs	NA	0.609	
43767-106	PANTS12	Lower Legs + nominal 5 ug each	5.00	5.44	96.6%
43767-108	PANTS12	Lower Legs + nominal 50 ug each	50.0	44.7	88.2%
43767-109	PANTS12	Upper Legs + nominal 50 ug each	50.0	50.5	99.8%
43767-110	PANTS12	Lower Legs + nominal 10000 ug each	10000	8530	85.3%
43767-111	PANTS12	Upper Legs + nominal 10000 ug each	10000	9250	92.5%

(1) Corrected for ug found in respective control sample.

Note: Sample 43767-107 was reinjected with set PANTS15;
however, the control 43767-105 was used for correction of recovery.

Average % Recovery (n=12)	92.7%
Standard Deviation (n=12)	6.93%
Avg. + 2 Std. Dev.	107%
Avg. - 2 Std. Dev.	78.8%

Prepared by: 25 Aug 97

Checked by: 2-12-98

Summary Results for Outer Pants Dosimeters Method Validation - Malathion
Reference Multichrom files Pants12 and Pants15

Sample ID	Data Set ID	Sample Description	Malathion Fortification Level (ug/segment)	Malathion Recovery (ug/segment)	% Recovery
43767-098	PANTS15	Control Lower Legs	NA	0	
43767-099	PANTS15	Upper Legs + nominal 5 ug each	5.00	5.73	115%
43767-100	PANTS15	Lower Legs + nominal 5 ug each	5.00	5.47	109%
43767-101	PANTS15	Upper Legs + nominal 50 ug each	50.0	51.6	103%
43767-102	PANTS15	Lower Legs + nominal 50 ug each	50.0	47.7	95.4%
43767-103	PANTS15	Upper Legs + nominal 10000 ug each	10000	9380	93.8%
43767-104	PANTS15	Lower Legs + nominal 10000 ug each	10000	9180	91.8%
43767-107	PANTS15	Upper Legs + nominal 5 ug each	5.00	5.84	117%
43767-105	PANTS12	Control Upper Legs	NA	0	
43767-106	PANTS12	Lower Legs + nominal 5 ug each	5.00	5.30	106%
43767-108	PANTS12	Lower Legs + nominal 50 ug each	50.0	52.5	105%
43767-109	PANTS12	Upper Legs + nominal 50 ug each	50.0	54.3	109%
43767-110	PANTS12	Lower Legs + nominal 10000 ug each	10000	9470	94.7%
43767-111	PANTS12	Upper Legs + nominal 10000 ug each	10000	10000	100%

Average % Recovery (n=12)	103%
Standard Deviation (n=12)	8.36%
Avg. + 2 Std. Dev.	120%
Avg. - 2 Std. Dev.	86.3%

Prepared by: 25 Ag 97

Checked by: 2-12-98

SAMPLE TRACKING FORM

Customer Name: ARTF	Study Director: Loren C. Schrier	Test Material: Diazinon and Malathion	Matrix: Outer Dosimeters (Pants)
ARTF Protocol: ARF003	ABC Study Number: 43767	Outer Cotton (Pants) Dosimeters Repeat Method Validation Set 1	

Extraction	Partitioning	C18 Cleanup	Vial	GC/FPD Analysis	Chromatography review:
CYG 8-20-97 JW 20 Aug 97	CYG 8-20-97 JW 20 Aug 97	CYG 8-20-97	CYG 8-20-97	CYG 8-20-97 Note - Reported results are from injections made on 24 Aug 97. DAK 28 Jan 99	Spreadsheet entry by: 25 Aug 97

ABC Lab Number	Sample Description (Designate Upper or Lower Legs)	Extraction Volume	Aliquot Taken	AOT Volume, Aliquot for C18 Cleanup	Final Volume and Dilutions	Fortified by: CYG 8-20-97 Witnessed by: JW 20 Aug 97
43767-098	Control Lower Leg	2500 mL	25.0 mL	15.0 mL, then 5.00 mL	2.00 mL	
43767-099	Control Upper Leg + nominal 5.00 ug Each	2500 mL	25.0 mL	15.0 mL, then 5.00 mL	2.00 mL	Fortify with 0.500 mL of 10.0 ug/mL mixed fortification solution (2Mix-F2)
43767-100	Control Lower Leg + nominal 5.00 ug Each	2500 mL	25.0 mL	15.0 mL, then 5.00 mL	2.00 mL	Fortify with 0.500 mL of 10.0 ug/mL mixed fortification solution (2Mix-F2)
43767-101	Control Upper Leg + nominal 50.0 ug Each	2500 mL	25.0 mL	15.0 mL, then 5.00 mL	4.00 mL	Fortify with 1.00 mL of 50.0 ug/mL mixed fortification solution (2Mix-E2)
43767-102	Control Lower Leg + nominal 50.0 ug Each	2500 mL	25.0 mL	15.0 mL, then 5.00 mL	4.00 mL	Fortify with 1.00 mL of 50.0 ug/mL mixed fortification solution (2Mix-E2)
43767-103	Control Upper Leg + nominal 10000 ug Each	2500 mL	25.0 mL	15.0 mL, then 5.00 mL	25.0 mL, then dilute 0.50 mL to 15.5 mL	Fortify with 2.0 mL of 5.00 mg/mL mixed fortification solution (2Mix-A2)
43767-104	Control Lower Leg + nominal 10000 ug Each	2500 mL	25.0 mL	15.0 mL, then 5.00 mL	25.0 mL, then dilute 0.50 mL to 15.5 mL	Fortify with 2.0 mL of 5.00 mg/mL mixed fortification solution (2Mix-A2)

Remarks:

Acetone: B&J, Lot# BP707 CYG 8-20-97
Hexane: B&J, Lot# BN936 CYG 8-20-97
Ethyl Ether: B&J, Lot# BN234 CYG 8-20-97

DCM: B&J, Lot# BN794 CYG 8-20-97
Methanol: B&J, Lot# BO820 CYG 8-20-97
C18 SPE: Varian Bond Elut 1 g/6 mL, Lot 071340
Water: Labconco DI

Note: The C18 elution volume for pants was 12 mL DCM. 25 Aug 97

Checked by 2-12-98 Approved by 2 Feb 98

[43767] 29 PANTS15 Page 1
Reported on 25-AUG-1997 at 08:06
Modified on 24-AUG-1997 at 15:35

List Run Sequence File

ANALYST NAME..... LOREN C. SCHRIER
43767 PANTS METHOD VALIDATION REINJECTION

ANALYSIS INFORMATION

Analysis name..... PANTS15
Method name..... PANTS15
Calibration name..... PANTS15
Calibration sequence..... Average Standard
User parameter 1 name..... FINAL VOLUME (ML)
User parameter 2 name..... FACTOR 1
User parameter 3 name..... FACTOR 2

SAMPLE SUMMARY

SAMPLE NUMBER	LIMS ID	SAMPLE NAME
1	----------	EQUILIBRATION
2	----------	EQUILIBRATION
3	----------	SOLVENT BLANK
4	----------	GCMIX-G2 100 NG/ML STD
5	----------	GCMIX-G3 60.0 NG/ML STD
6	----------	43767-098
7	----------	43767-099
8	----------	43767-100
9	----------	GCMIX-G4 40.0 NG/ML STD
10	----------	43767-101
11	----------	43767-102
12	----------	GCMIX-G5 20.0 NG/ML STD
13	----------	43767-103
14	----------	43767-104
15	----------	43767-107
16	----------	GCMIX-G6 10.0 NG/ML STD
17	----------	GCMIX-H7 4.00 NG/ML STD

[43767] 29 PANTS15 Page 2
Reported on 25-AUG-1997 at 08:06
Modified on 24-AUG-1997 at 15:35

SAMPLE INFORMATION

SAMPLE NUMBER	TYPE	CALIB LEVEL	UPDATE RT	UPDATE RF	AMOUNT	NUM INJ	BOT NUM
1	Sa	--	-	-	1.00000	1	1
2	Sa	--	-	-	1.00000	1	2
3	Sa	--	-	-	1.00000	1	3
4	St	01	N	I	1.00000	1	4
5	St	02	N	I	1.00000	1	5
6	Sa	--	-	-	1.00000	1	6
7	Sa	--	-	-	1.00000	1	7
8	Sa	--	-	-	1.00000	1	8
9	St	03	N	I	1.00000	1	9
10	Sa	--	-	-	1.00000	1	10
11	Sa	--	-	-	1.00000	1	11
12	St	04	N	I	1.00000	1	12
13	Sa	--	-	-	1.00000	1	13
14	Sa	--	-	-	1.00000	1	14
15	Sa	--	-	-	1.00000	1	14
16	St	05	N	I	1.00000	1	15
17	St	06	N	I	1.00000	1	16

USER PARAMETER VALUES

SAMPLE	FINAL VOLUME (ML)	FACTOR 1	FACTOR 2
1	1.00000	1.00000	1.00000
2	1.00000	1.00000	1.00000
3	2.00000	37500.00000	125000.00000
4	1.00000	1.00000	1.00000
5	1.00000	1.00000	1.00000
6	2.00000	37500.00000	125000.00000
7	2.00000	37500.00000	125000.00000
8	2.00000	37500.00000	125000.00000
9	1.00000	1.00000	1.00000
10	4.00000	37500.00000	125000.00000
11	4.00000	37500.00000	125000.00000
12	1.00000	1.00000	1.00000
13	25.00000	581250.00000	62500.00000
14	25.00000	581250.00000	62500.00000
15	2.00000	37500.00000	125000.00000
16	1.00000	1.00000	1.00000
17	1.00000	1.00000	1.00000

[43767] 29 PANTS15
Reported on 25-AUG-1997 at 08:06
Modified on 24-AUG-1997 at 15:35

INTERNAL/DILUTION STANDARDS

SAMPLE NUMBER	ISTD1 AMOUNT	ISTD2 AMOUNT	ISTD3 AMOUNT	DIL1 AMOUNT	DIL2 AMOUNT
1	1.00000	1.00000	1.00000	1.00000	1.00000
2	1.00000	1.00000	1.00000	1.00000	1.00000
3	1.00000	1.00000	1.00000	1.00000	1.00000
4	1.00000	1.00000	1.00000	1.00000	1.00000
5	1.00000	1.00000	1.00000	1.00000	1.00000
6	1.00000	1.00000	1.00000	1.00000	1.00000
7	1.00000	1.00000	1.00000	1.00000	1.00000
8	1.00000	1.00000	1.00000	1.00000	1.00000
9	1.00000	1.00000	1.00000	1.00000	1.00000
10	1.00000	1.00000	1.00000	1.00000	1.00000
11	1.00000	1.00000	1.00000	1.00000	1.00000
12	1.00000	1.00000	1.00000	1.00000	1.00000
13	1.00000	1.00000	1.00000	1.00000	1.00000
14	1.00000	1.00000	1.00000	1.00000	1.00000
15	1.00000	1.00000	1.00000	1.00000	1.00000
16	1.00000	1.00000	1.00000	1.00000	1.00000
17	1.00000	1.00000	1.00000	1.00000	1.00000

PROCESSING ORDER

SAMPLE NUMBER	TYPE
4	Standard
5	Standard
9	Standard
12	Standard
16	Standard
17	Standard
1	Sample
2	Sample
3	Sample
6	Sample
7	Sample
8	Sample
10	Sample
11	Sample
13	Sample
14	Sample

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Reported on 25-AUG-1997 at 08:06
Modified on 24-AUG-1997 at 15:35

SAMPLE NUMBER	TYPE
15	Sample

Gas Chromatographic Instrument Parameters Form

ABC Laboratory Study Number: 43767
Customer Identification: ARTF

Instrument: HP 5890 Series II Material ID# 1652-0120
Autoinjector: HP 7673B Material ID# 1625-802A

Column: HP-5MS, 30 M X 0.25 mm, 0.25 μm film thickness
Serial#: 57105214

Detector Type: FPD/P

Electrometer: Range 4

Temperatures:
- Injector (°C): 230
- Detector (°C): 230
- Column:
  - Initial Temp.(°C): 95
  - Initial Time: 1.0 min.
  - Program Rate 1: 30 °C/min to 230 °C, hold 4 min
  - Program Rate 2: 40 °C/min to 290 °C, hold 4 min

Carrier Gas Flow Rate:	He	1.6 mL/min
Septum Purge:	He	2.0 mL/min
Make Up Gas:	N_2	21 mL/min
Air Flow Rate:		98 mL/min.
Hydrogen Flow Rate:		69 mL/min.
Purge Valve:	Off at 0 min, on at 0.75 min	

Injection Volume: 2 μL

Run Sequence File: PANTS 15

Quantitation Standards: GCmix-G2 → G6, H7

Prepared By: [signature] Date: 24 Aug 97

Checked By: [signature] Date: 2-12-98

MCDO [43767] 29 PANTS15

ABC Laboratories, Inc.
Sample Information Report ver 3.3

Report Date: 25 AUG 97 at 08:20:50
Page 1

Sample Name	No.	Type	Level	User Parameter 1 FINAL VOLUME (ML)	User Parameter 2 FACTOR 1	User Parameter 3 FACTOR 2
EQUILIBRATION	1	SA		1.00000	1.00000	1.00000
EQUILIBRATION	2	SA		1.00000	1.00000	1.00000
SOLVENT BLANK	3	SA		2.00000	37500.00000	125000.00000
GCMIX-G2 100 NG/ML STD	4	ST	01	1.00000	1.00000	1.00000
GCMIX-G3 60.0 NG/ML STD	5	ST	02	1.00000	1.00000	1.00000
43767-098	6	SA		2.00000	37500.00000	125000.00000
43767-099	7	SA		2.00000	37500.00000	125000.00000
43767-100	8	SA		2.00000	37500.00000	125000.00000
GCMIX-G4 40.0 NG/ML STD	9	ST	03	1.00000	1.00000	1.00000
43767-101	10	SA		4.00000	37500.00000	125000.00000
43767-102	11	SA		4.00000	37500.00000	125000.00000
GCMIX-G5 20.0 NG/ML STD	12	ST	04	1.00000	1.00000	1.00000
43767-103	13	SA		25.00000	581250.00000	62500.00000
43767-104	14	SA		25.00000	581250.00000	62500.00000
43767-107	15	SA		2.00000	37500.00000	125000.00000
GCMIX-G6 10.0 NG/ML STD	16	ST	05	1.00000	1.00000	1.00000
GCMIX-H7 4.00 NG/ML STD	17	ST	06	1.00000	1.00000	1.00000

MCDO [43767] 29 PANTS15

ABC Laboratories, Inc.
Results Information Report ver 3.3
Component Name: DIAZINON

Report Date: 25 AUG 97
Time: 08:20:50
Page: 1

Sample Name	SMP #	INJ #	RT(mins)	Height	ng/mL or ug	CAL. RANG	Peak Type	Bad INJ
EQUILIBRATION	1	1	6.25	45840	48.60006		OB	---
EQUILIBRATION	2	1	6.25	47696	50.55059		OB	---
SOLVENT BLANK	3	1	0.00	0	0.00000	UNDR	OB	---
GCMIX-G2 100 NG/ML STD	4	1	6.26	95703	101.01320		OBF	---
GCMIX-G3 60.0 NG/ML STD	5	1	6.26	60262	63.75936		OB	---
43767-098	6	1	6.25	818	0.76498	UNDR	O	---
43767-099	7	1	6.25	9226	6.06743		OBF	---
43767-100	8	1	6.26	8541	5.63592		OB	---
GCMIX-G4 40.0 NG/ML STD	9	1	6.26	34599	36.78331		OB	---
43767-101	10	1	6.26	36911	47.05696		OB	---
43767-102	11	1	6.25	34687	44.25209		OB	---
GCMIX-G5 20.0 NG/ML STD	12	1	6.26	17677	18.99562		OB	---
43767-103	13	1	6.25	33512	8286.50977		OB	---
43767-104	14	1	6.26	34864	8616.89648		OBF	---
43767-107	15	1	6.25	8263	5.46040		OBF	---
GCMIX-G6 10.0 NG/ML STD	16	1	6.25	8766	9.62929		OBF	---
GCMIX-H7 4.00 NG/ML STD	17	1	6.26	3847	4.45816		O	---

MCDO [43767] 29 PANTS15

ABC Laboratories, Inc.
Results Information Report ver 3.3
Component Name: MALATHION

Report Date: 25 AUG 97
Time: 08:20:50
Page: 1

Sample Name	SMP #	INJ #	RT(mins)	Height	ng/mL or ug	CAL. RANG	Peak Type	Bad INJ
EQUILIBRATION	1	1	7.21	28824	50.66461		OB	---
EQUILIBRATION	2	1	7.21	30581	53.75805		OBF	---
SOLVENT BLANK	3	1	0.00	0	0.00000	UNDR	OB	---
GCMIX-G2 100 NG/ML STD	4	1	7.21	58503	102.90988		OB	---
GCMIX-G3 60.0 NG/ML STD	5	1	7.21	34771	61.13306		OB	---
43767-098	6	1	0.00	0	0.00000	UNDR	O	---
43767-099	7	1	7.21	5463	5.72521		OBF	---
43767-100	8	1	7.21	5226	5.47451		OBF	---
GCMIX-G4 40.0 NG/ML STD	9	1	7.21	21282	37.38878		OB	---
43767-101	10	1	7.21	24456	51.57137		OBF	---
43767-102	11	1	7.20	22601	47.65205		OB	---
GCMIX-G5 20.0 NG/ML STD	12	1	7.21	10113	17.72777		OBF	---
43767-103	13	1	7.20	22970	9383.75195		OB	---
43767-104	14	1	7.22	22470	9179.21777		OB	---
43767-107	15	1	7.21	5573	5.84169		OBF	---
GCMIX-G6 10.0 NG/ML STD	16	1	7.20	6606	11.55490		OB	---
GCMIX-H7 4.00 NG/ML STD	17	1	7.21	2354	4.06990		OBF	---

Acquisition and Peak Processing Parameters Report Print Date and Time : 25 AUG 97 08:30:17
Version 2 Page : 1
MCDO [43767] 29 PANTS15 Based on Sample Number : 1 Injection Number : 1

ACQUISITION PARAMETERS
Data Collection :
Length of Run..... 14.99 mins
Post Injection Delay..... 0.00 mins
Sampling Rate..... 15.00 Hz
Baseline Offset :
Adjust Baseline..... Yes
Baseline Offset..... 10.00 %

PEAK PROCESSING PARAMETERS
Auto Process Parameters :
Peak Threshold..... 0.50
Baseline Test..... 4
Peak Trend..... 4
Separation Parameters :
Shoulder Sensitivity..... 0.10
Rider Sensitivity..... 0.05
Rejection Parameters :
Minimum Peak Width..... 0.00 secs
Minimum Peak Height..... 500.00 uV
Minimum Peak Area..... 1000.00 uVs
Ignore Flat Top Peak..... No
User Imposed Action Control :
Forced Baseline..... No
Suppress Integration..... Yes
Tangent Skimming..... No
Shoulder Detection..... No
Data Bunching..... No
Negative Detection..... No
Integration Modes :
Retention Time Integration..... No
Square Root Area and Height..... No

PROCESSING ACTIONS

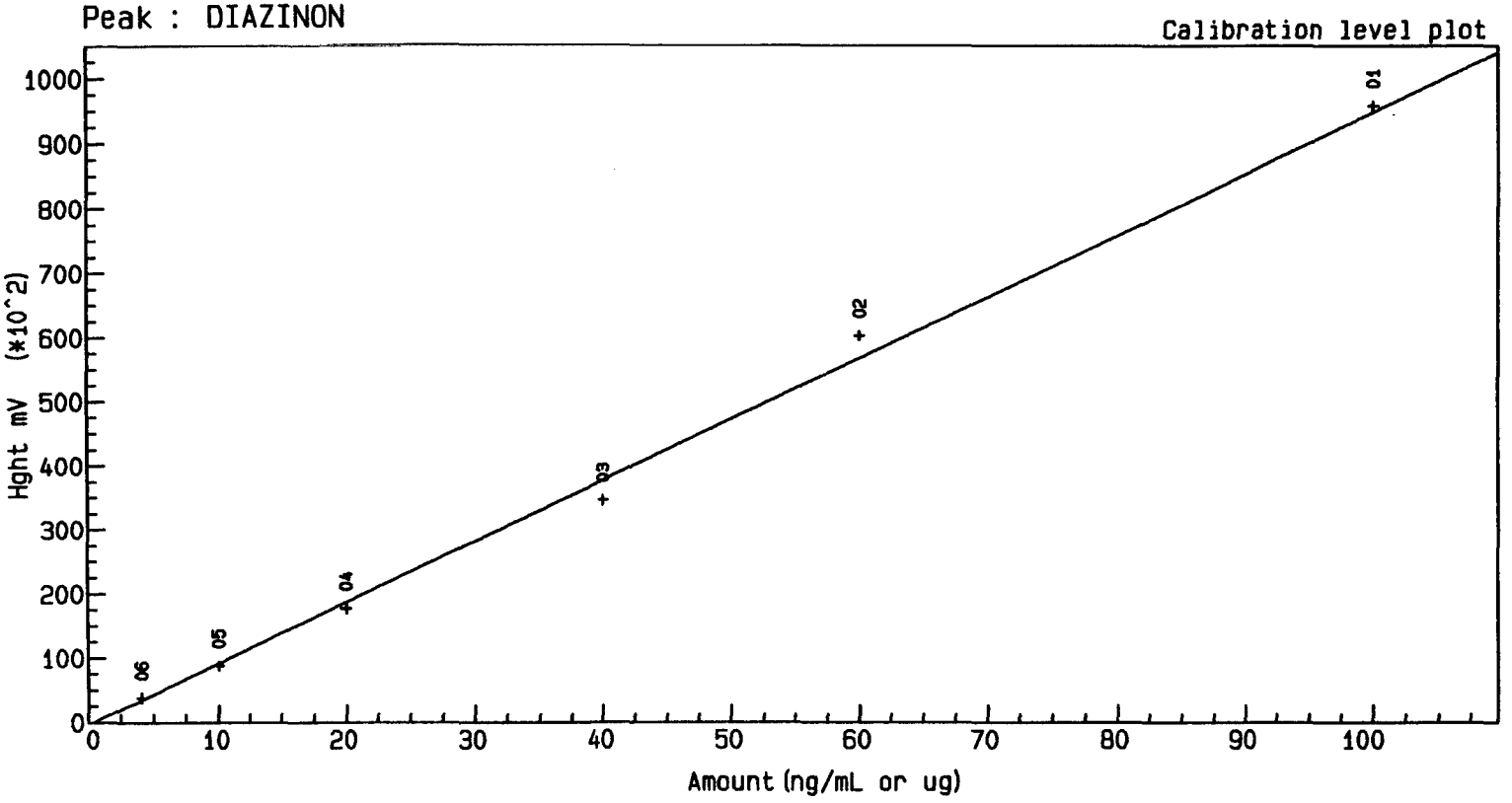
Time (mins)	Force Baseline	Integrate Suppress	Tangent Skim	Bunch Size	Shoulder Detect	Negative Detect
0.00	--	SI	_	0	--	--
5.50	--	ES	_	0	--	--
8.00	--	SI	_	0	--	--

Calibration last modified on 25-Aug-1997 at 08:14
Calibration Sequence..... AVERAGE

These parameters apply to all injections of set PANTS15 with no exceptions

ABC Laboratories, Inc. Multichrom ver 1.8-2

Calibration Name : 29 PANTS15.
43767 PANTS METHOD VALIDATION REINJ
Peak : DIAZINON



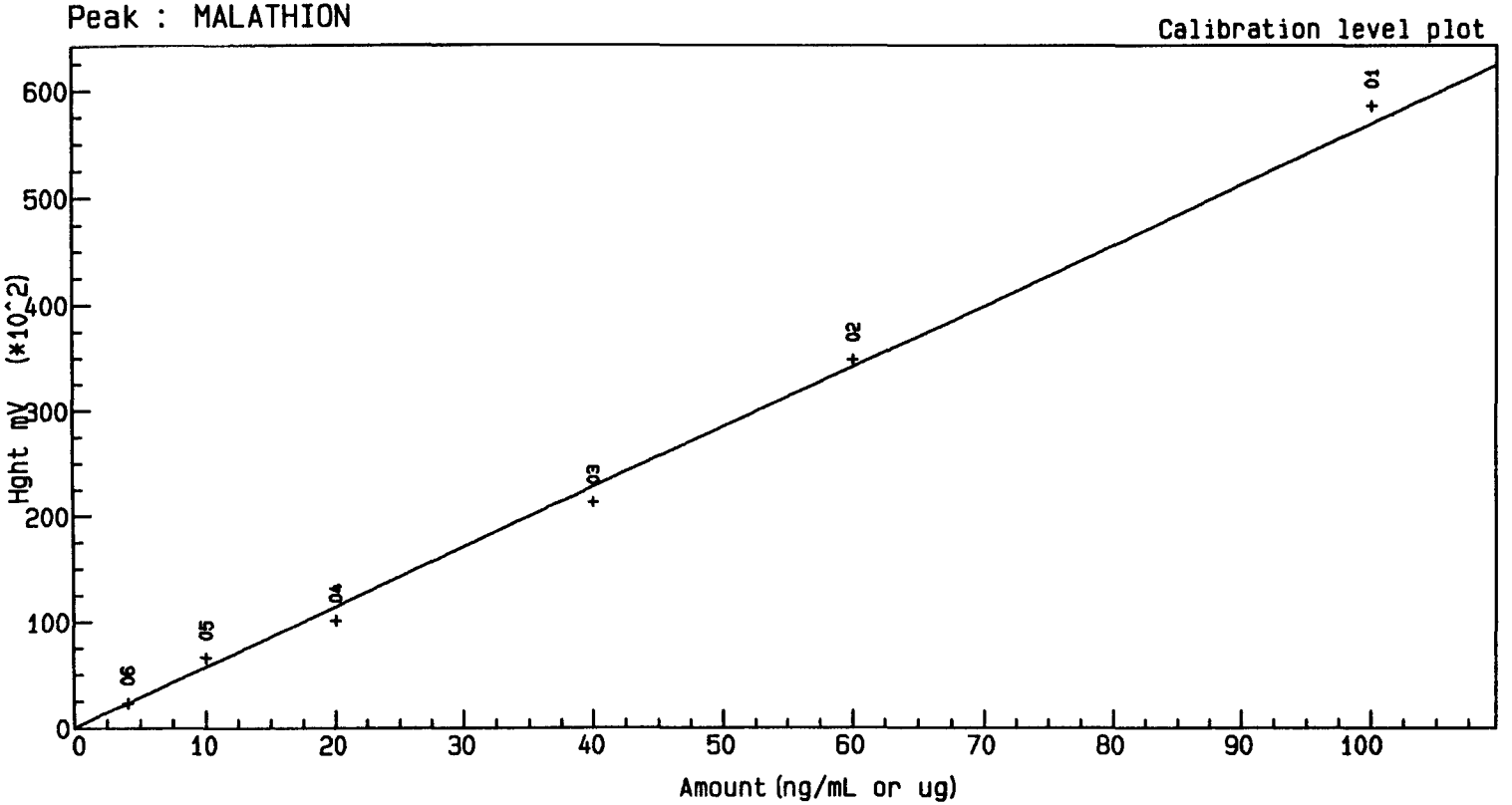
Constant : -3.946656E+2
1st degree : 9.51333E+2

Curve fit : Linear
Correlation coefficient : 0.99806
Standard error : 2.46534E+3

Reported on 25-AUG-1997 at 08:30

ABC Laboratories, Inc. Multichrom ver 1.8-2

Calibration Name : 29 PANTS15.
43767 PANTS METHOD VALIDATION REINJ
Peak : MALATHION



Constant : 4.22563E+1
1st degree : 5.68081E+2

Curve fit : Linear
Correlation coefficient : 0.99827
Standard error : 1.39600E+3

Reported on 25-AUG-1997 at 08:30

ABC Laboratories, Inc.

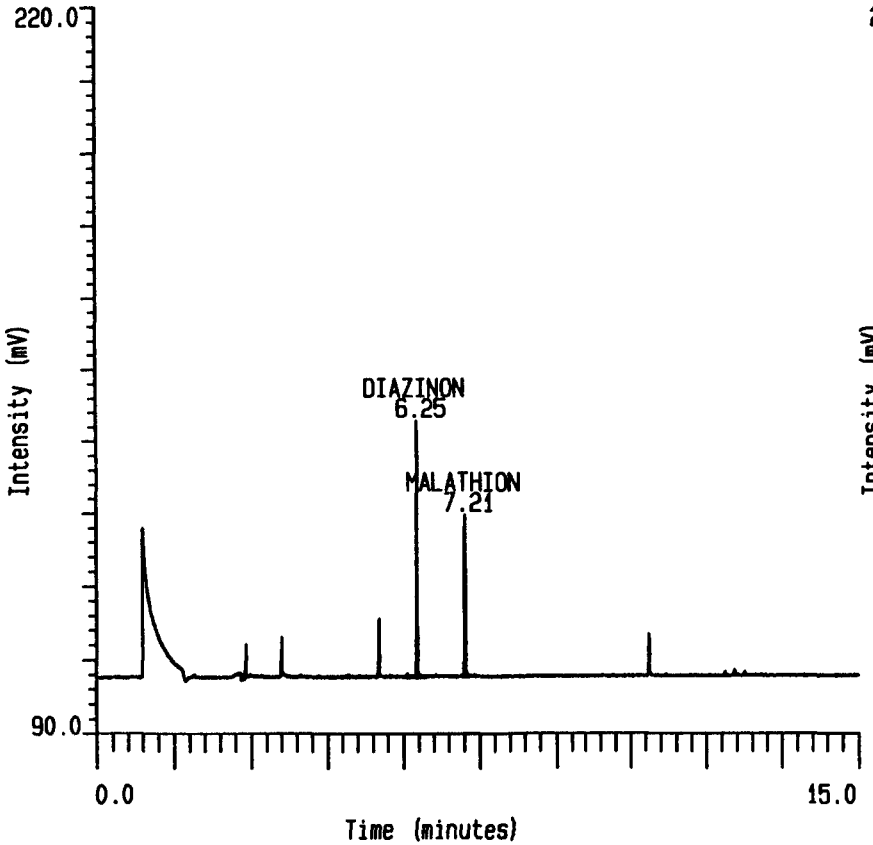
MCPP ver 2.3

43767 PANTS METHOD VALIDATION REINJECTION

Date of Report: 25 AUG 97 at 08:31:39

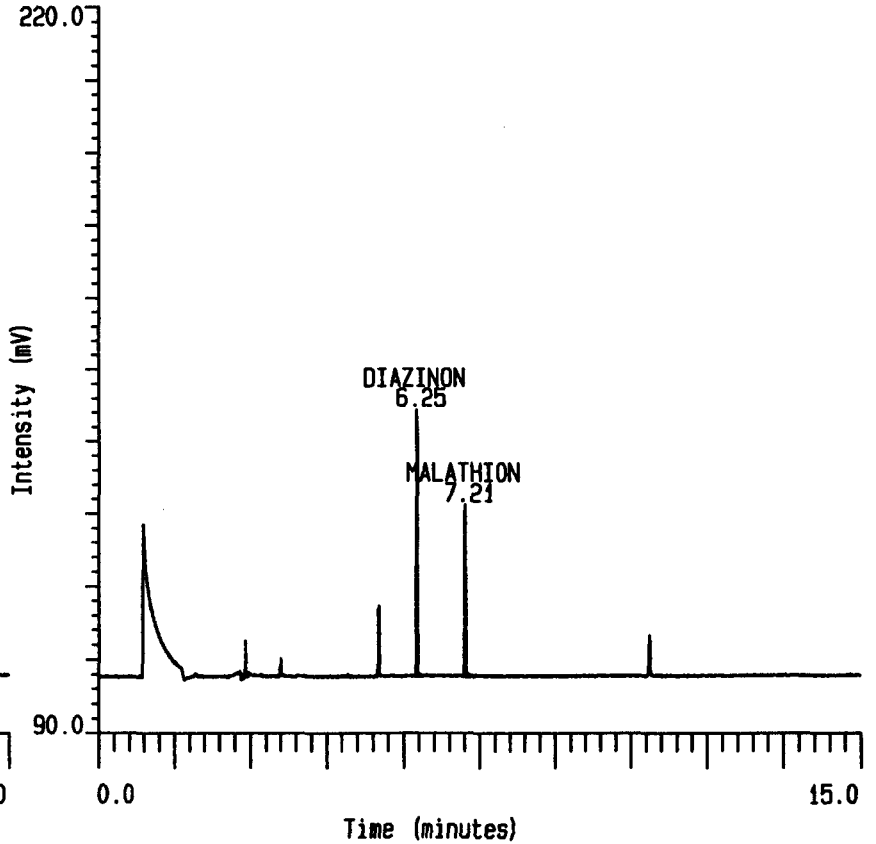
MCDO [43767] 29 PANTS15, 1, 1
EQUILIBRATION
Acquired on 24-Aug-1997 at 16:50

Peak Name	RT (mins)	Height	ng/mL or ug
DIAZINON	6.25	45840	48.60006
MALATHION	7.21	28824	50.66461



MCDO [43767] 29 PANTS15, 2, 1
EQUILIBRATION
Acquired on 24-Aug-1997 at 17:10

Peak Name	RT (mins)	Height	ng/mL or ug
DIAZINON	6.25	47696	50.55059
MALATHION	7.21	30581	53.75805



ABC Laboratories, Inc.

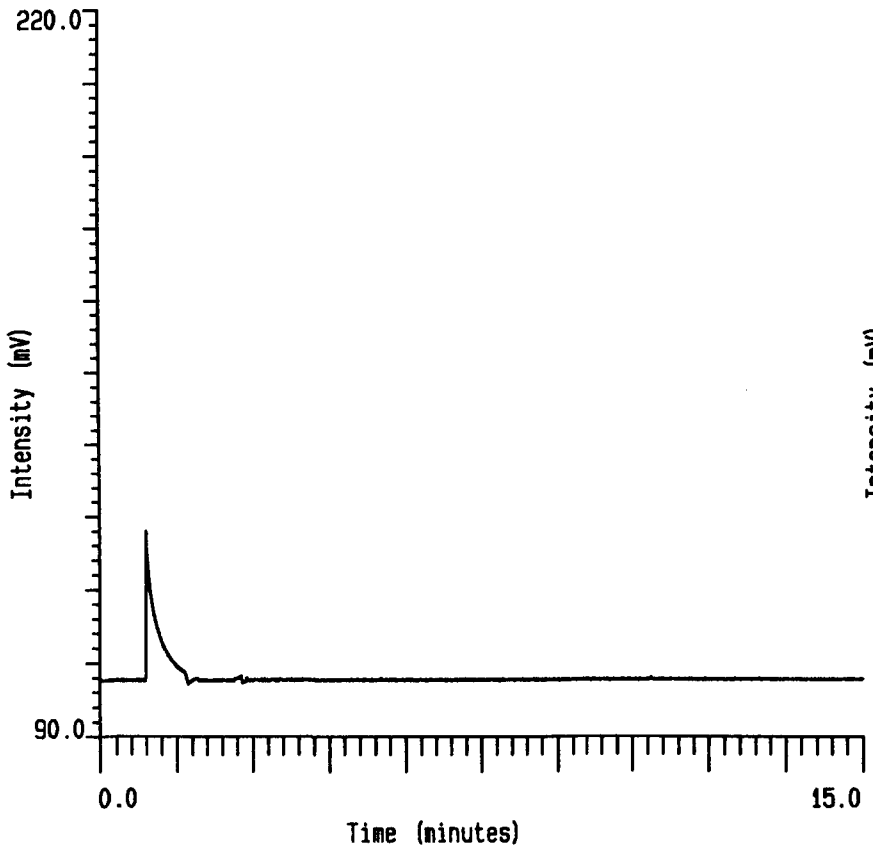
MCPP ver 2.3

43767 PANTS METHOD VALIDATION REINJECTION

Date of Report: 25 AUG 97 at 08:31:39

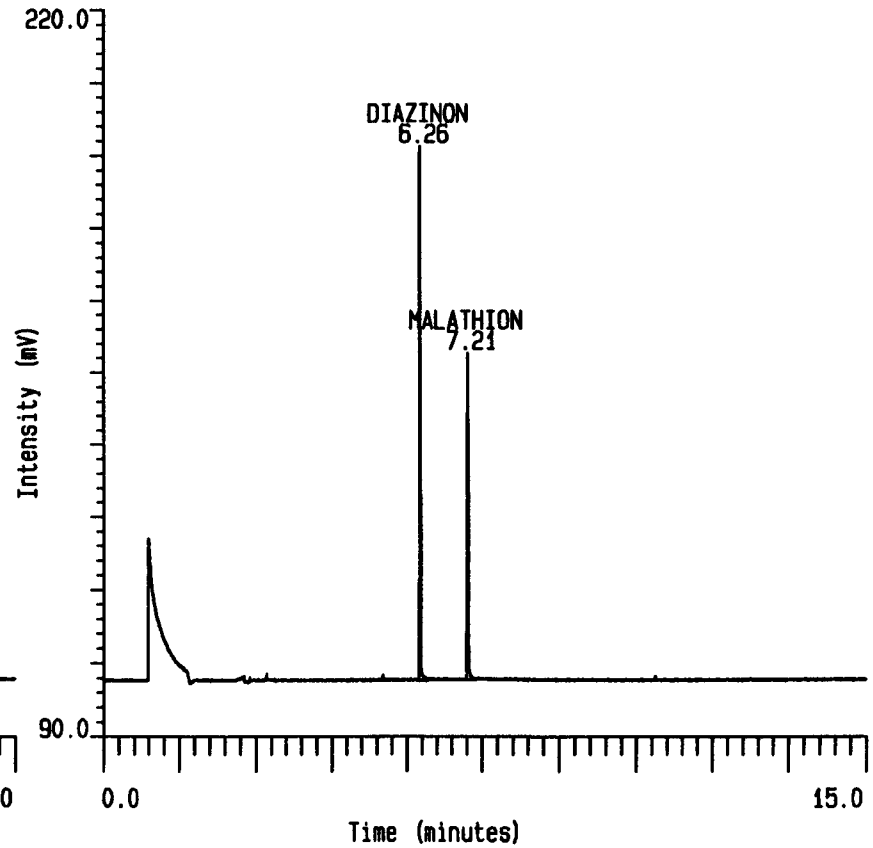
MCDO [43767] 29 PANTS15,3,1
SOLVENT BLANK
Acquired on 24-Aug-1997 at 17:31

Peak Name	RT (mins)	Height	ng/mL or ug
DIAZINON	0.00	0	0
MALATHION	0.00	0	0



MCDO [43767] 29 PANTS15,4,1
GCMIX-G2 100 NG/ML STD
Acquired on 24-Aug-1997 at 17:51

Peak Name	RT (mins)	Height	ng/mL or ug
DIAZINON	6.26	95703	101.01320
MALATHION	7.21	58503	102.90988



ABC Laboratories, Inc.

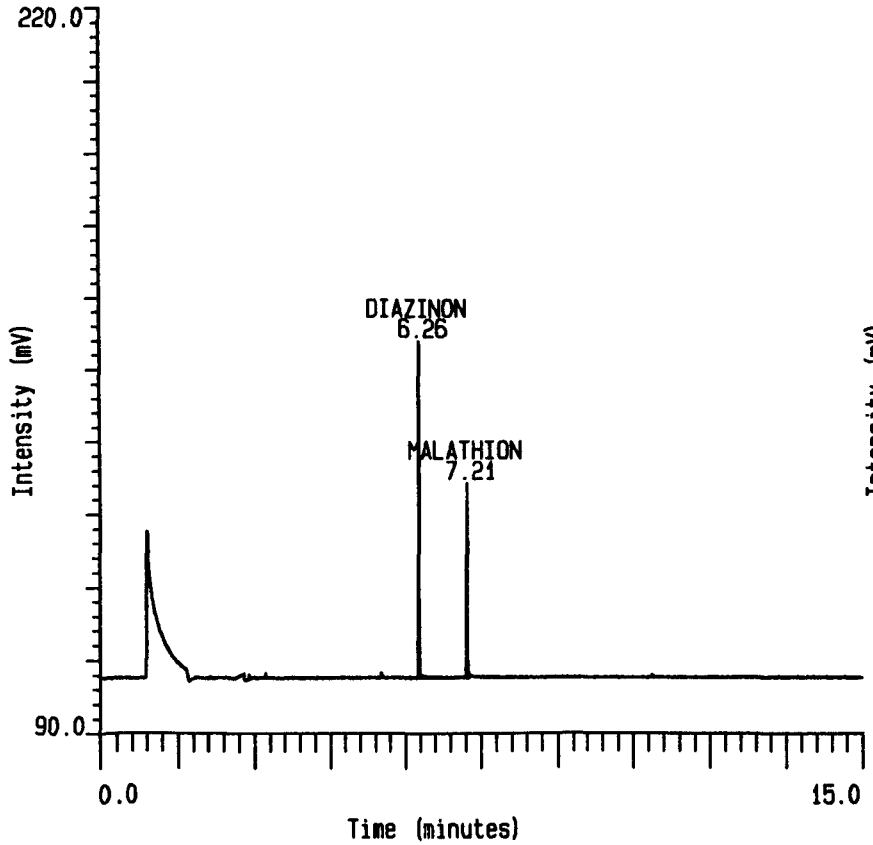
MCPP ver 2.3

43767 PANTS METHOD VALIDATION REINJECTION

Date of Report: 25 AUG 97 at 08:31:39

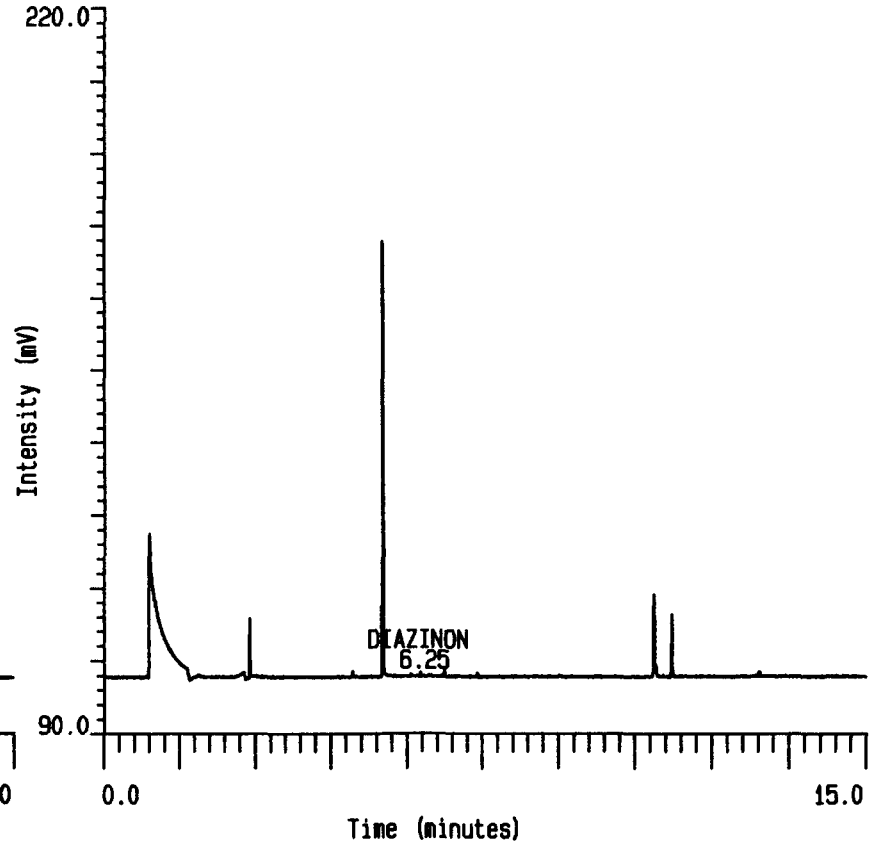
MCDO [43767] 29 PANTS15,5,1
GCMIX-G3 60.0 NG/ML STD
Acquired on 24-Aug-1997 at 18:11

Peak Name	RT (mins)	Height	ng/mL or ug
DIAZINON	6.26	60262	63.75936
MALATHION	7.21	34771	61.13306



MCDO [43767] 29 PANTS15,6,1
43767-098
Acquired on 24-Aug-1997 at 18:31

Peak Name	RT (mins)	Height	ng/mL or ug
DIAZINON	6.25	818	0.76498
MALATHION	0.00	0	0



ABC Laboratories, Inc.

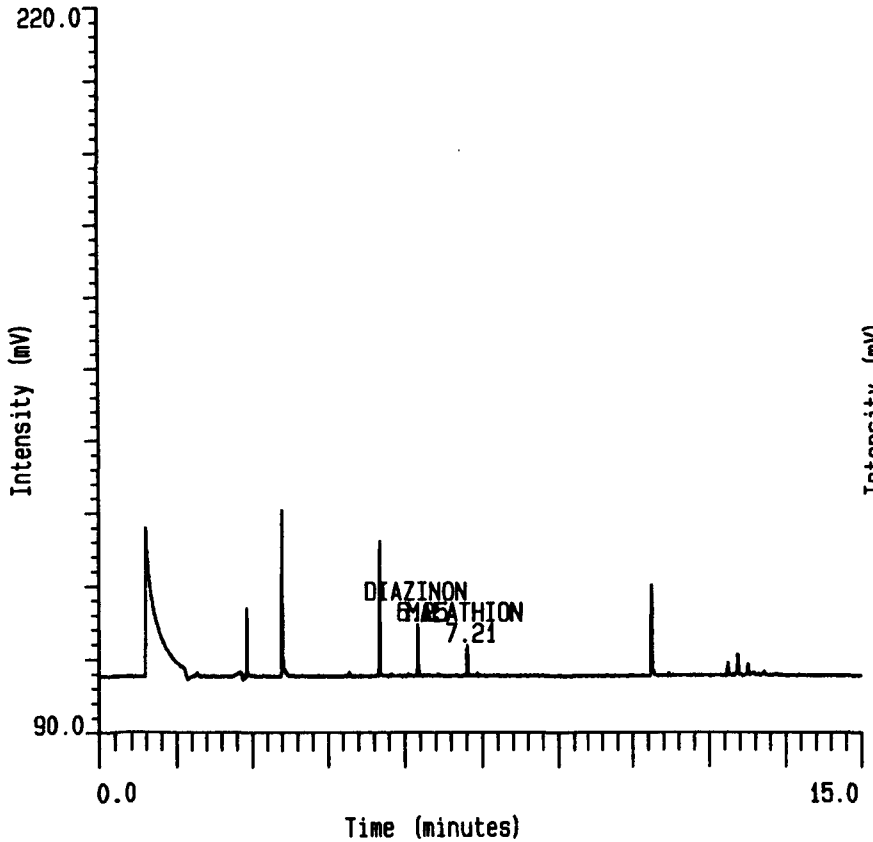
MCPP ver 2.3

43767 PANTS METHOD VALIDATION REINJECTION

Date of Report: 25 AUG 97 at 08:31:39

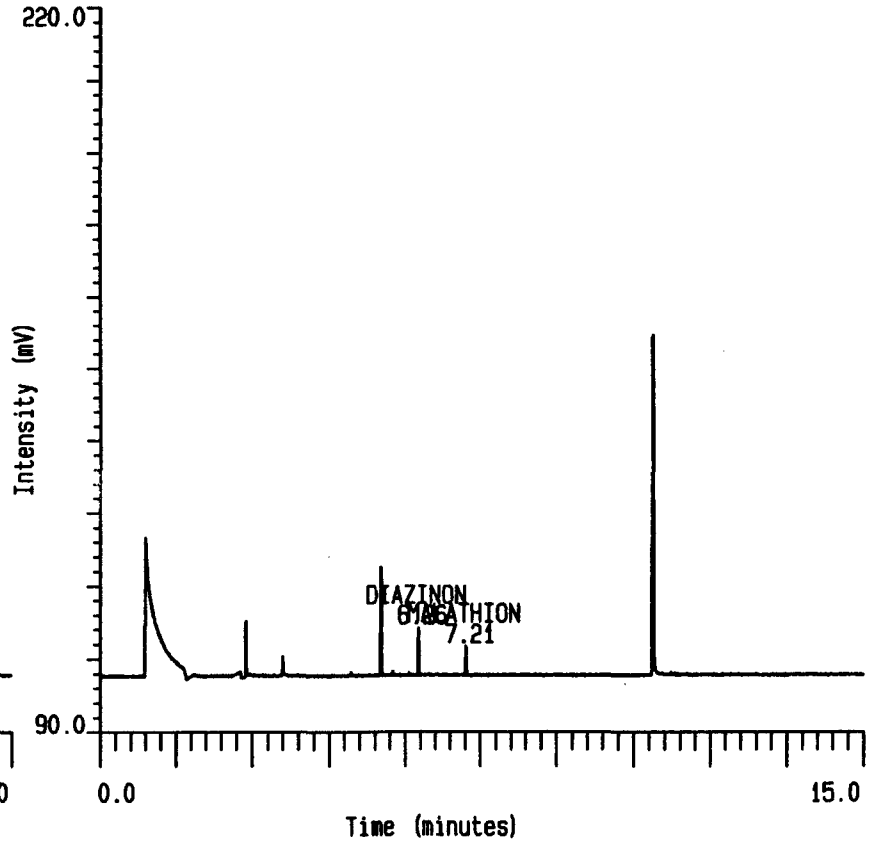
MCDO [43767] 29 PANTS15,7,1
43767-099
Acquired on 24-Aug-1997 at 18:51

Peak Name	RT (mins)	Height	ng/mL or ug
DIAZINON	6.25	9226	6.06743
MALATHION	7.21	5463	5.72521



MCDO [43767] 29 PANTS15,8,1
43767-100
Acquired on 24-Aug-1997 at 19:11

Peak Name	RT (mins)	Height	ng/mL or ug
DIAZINON	6.26	8541	5.63592
MALATHION	7.21	5226	5.47451



ABC Laboratories, Inc.

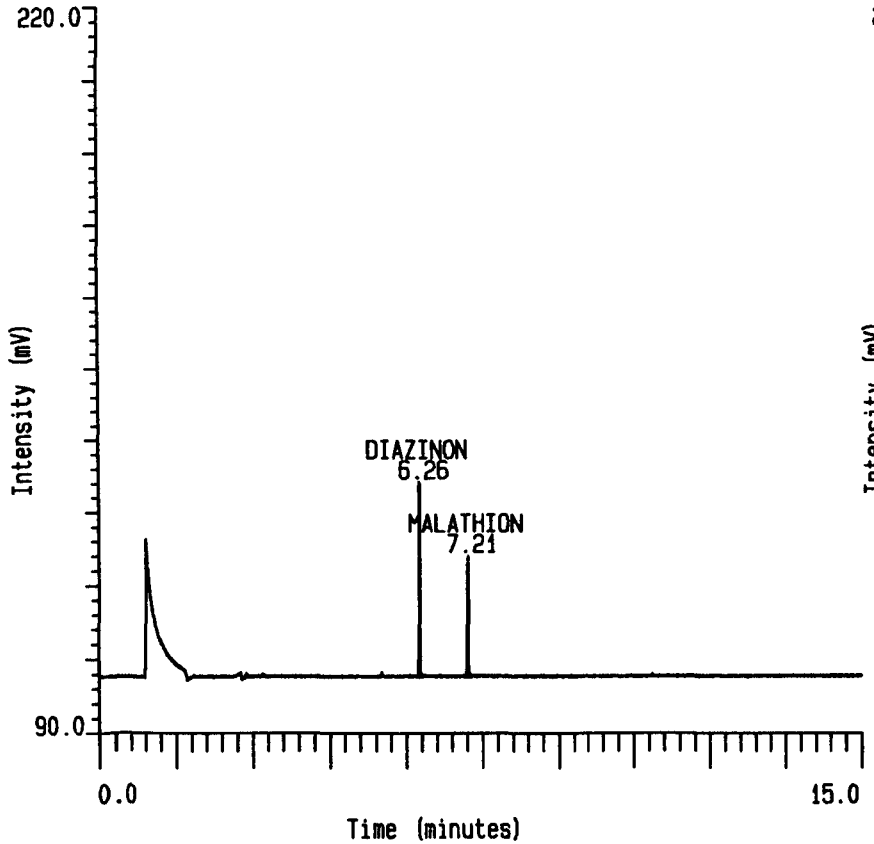
MCPP ver 2.3

43767 PANTS METHOD VALIDATION REINJECTION

Date of Report: 25 AUG 97 at 08:31:39

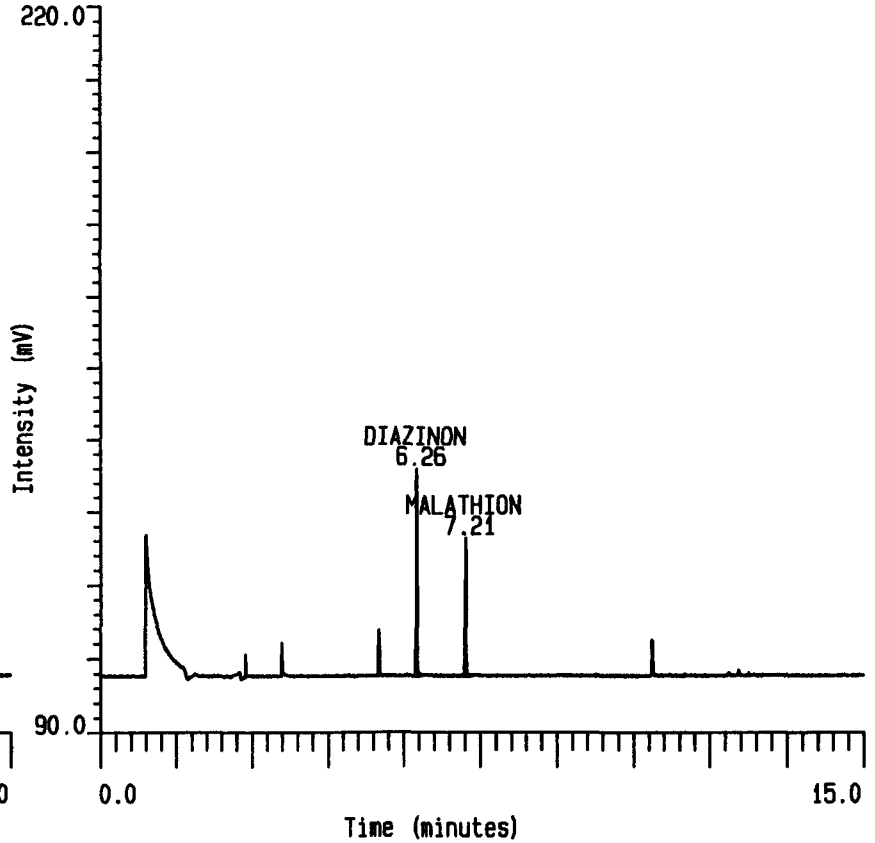
MCDO [43767] 29 PANTS15,9,1
GCMIX-G4 40.0 NG/ML STD
Acquired on 24-Aug-1997 at 19:31

Peak Name	RT (mins)	Height	ng/mL or ug
DIAZINON	6.26	34599	36.78331
MALATHION	7.21	21282	37.38878



MCDO [43767] 29 PANTS15,10,1
43767-101
Acquired on 24-Aug-1997 at 19:51

Peak Name	RT (mins)	Height	ng/mL or ug
DIAZINON	6.26	36911	47.05696
MALATHION	7.21	24456	51.57137



ABC Laboratories, Inc.

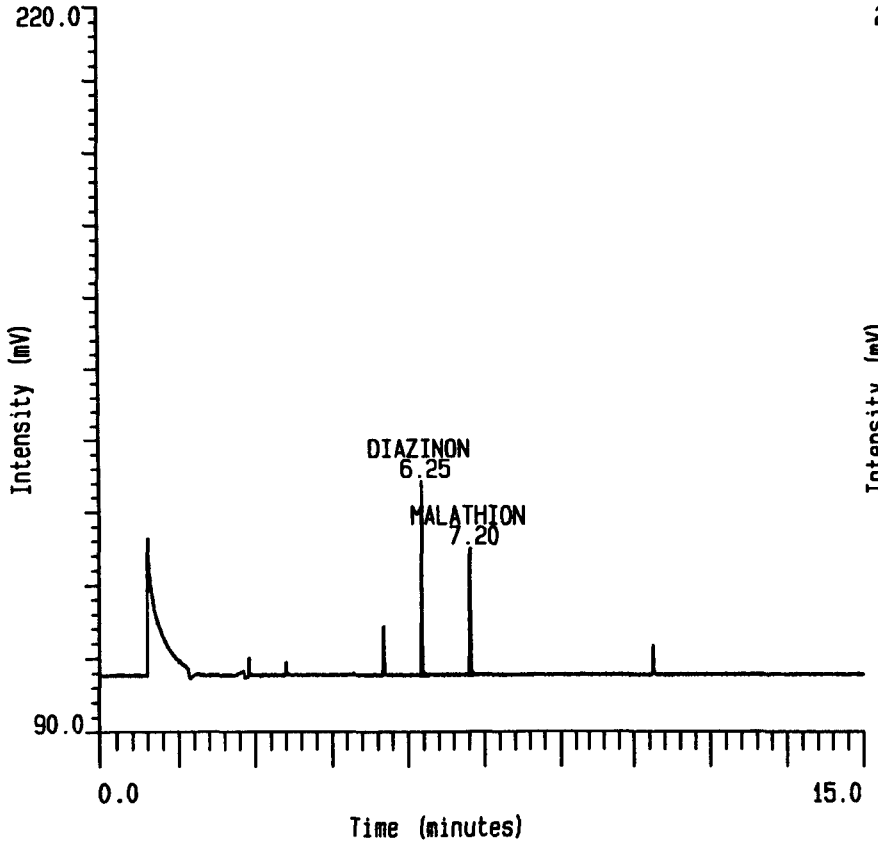
MCPP ver 2.3

43767 PANTS METHOD VALIDATION REINJECTION

Date of Report: 25 AUG 97 at 08:31:39

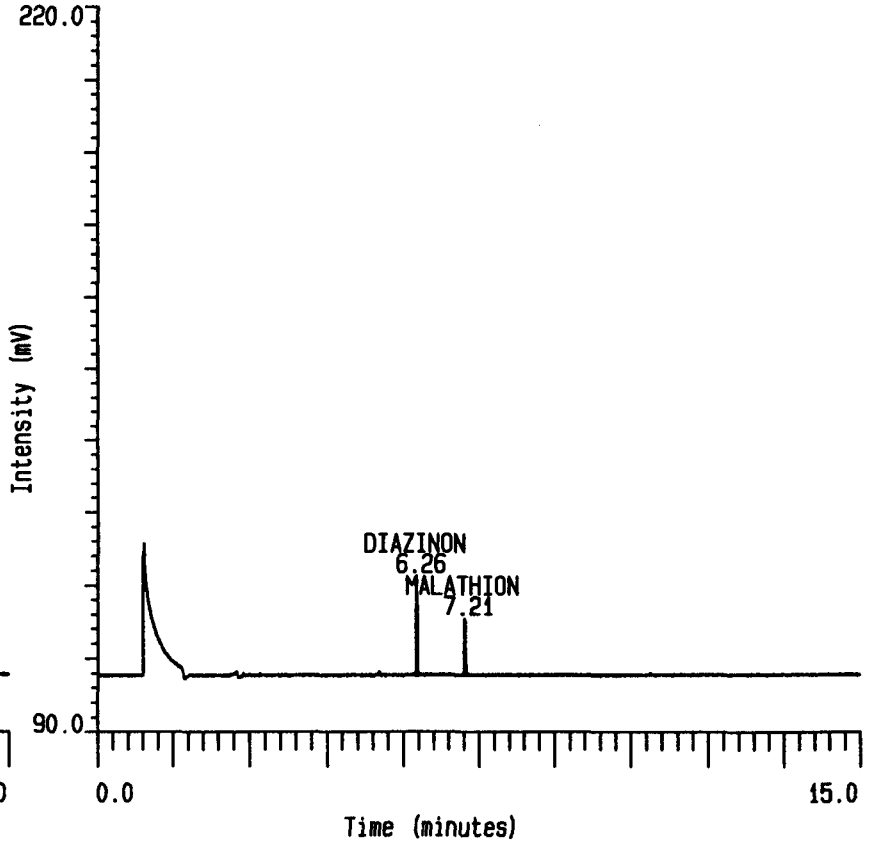
MCDO [43767] 29 PANTS15,11,1
43767-102
Acquired on 24-Aug-1997 at 20:11

Peak Name	RT (mins)	Height	ng/mL or ug
DIAZINON	6.25	34687	44.25209
MALATHION	7.20	22601	47.65205



MCDO [43767] 29 PANTS15,12,1
GCMIX-G5 20.0 NG/ML STD
Acquired on 24-Aug-1997 at 20:31

Peak Name	RT (mins)	Height	ng/mL or ug
DIAZINON	6.26	17677	18.99562
MALATHION	7.21	10113	17.72777



ABC Laboratories, Inc.

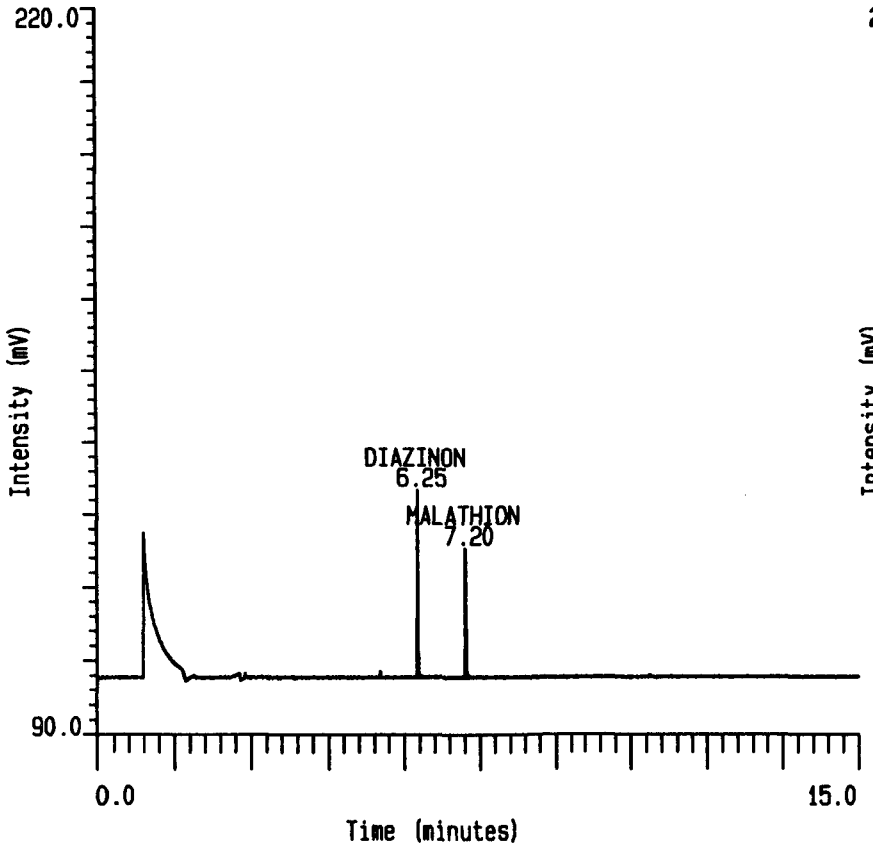
MCPP ver 2.3

43767 PANTS METHOD VALIDATION REINJECTION

Date of Report: 25 AUG 97 at 08:31:39

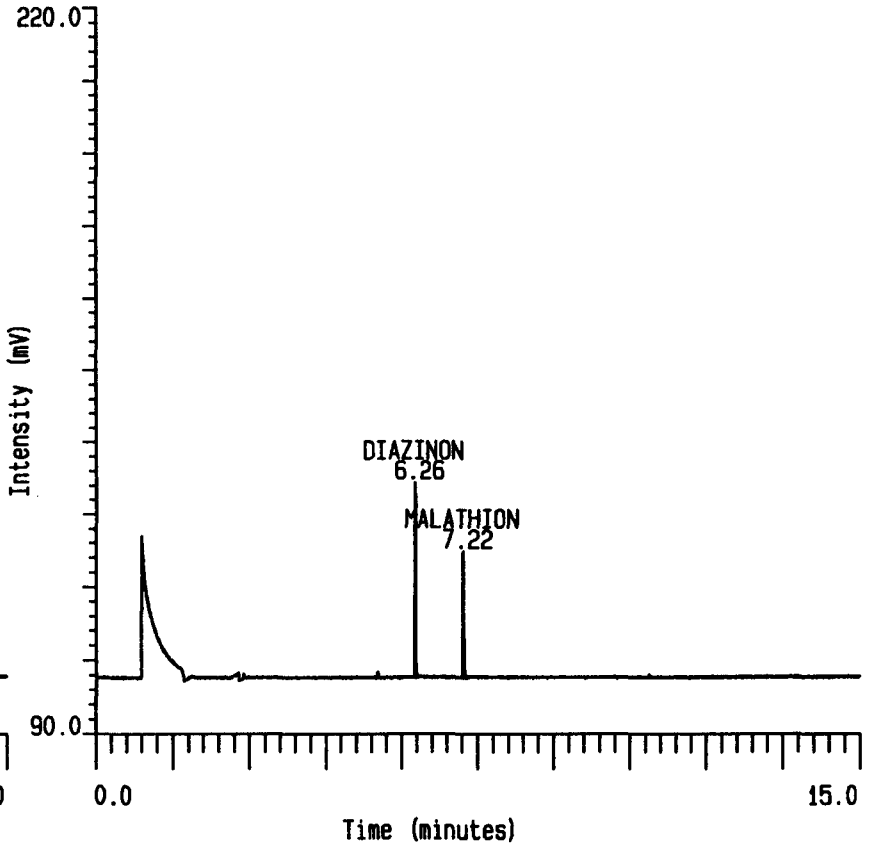
MCDO [43767] 29 PANTS15,13,1
43767-103
Acquired on 24-Aug-1997 at 20:51

Peak Name	RT (mins)	Height	ng/mL or ug
DIAZINON	6.25	33512	8286.50977
MALATHION	7.20	22970	9383.75195



MCDO [43767] 29 PANTS15,14,1
43767-104
Acquired on 24-Aug-1997 at 21:12

Peak Name	RT (mins)	Height	ng/mL or ug
DIAZINON	6.26	34864	8616.89648
MALATHION	7.22	22470	9179.21777



ABC Laboratories, Inc.

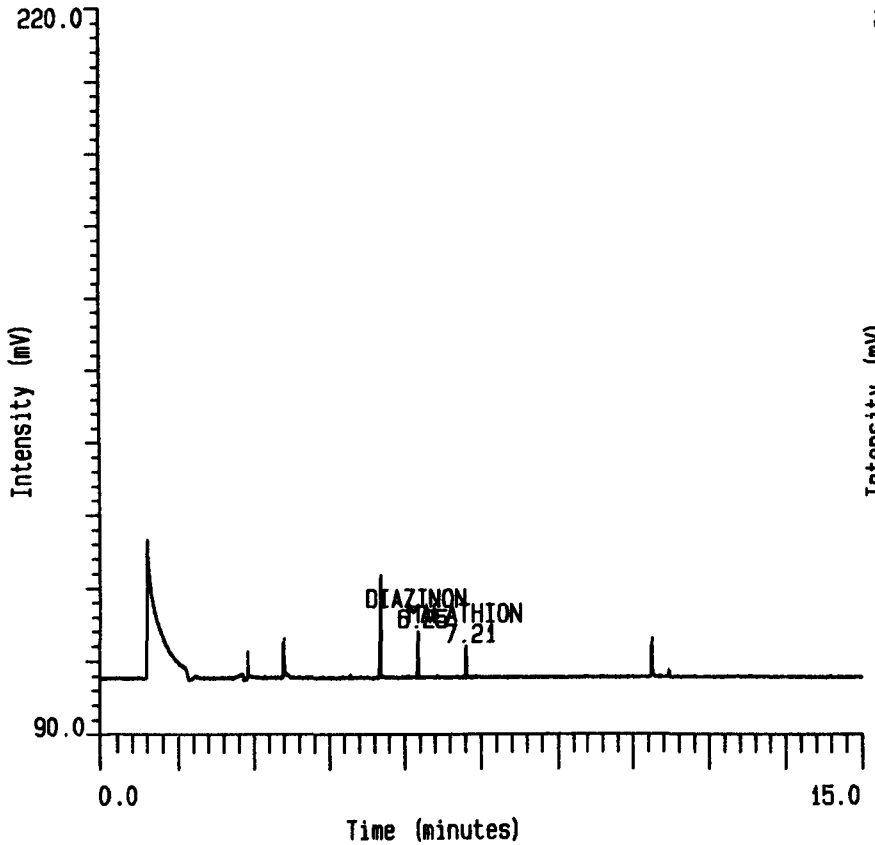
MCPP ver 2.3

43767 PANTS METHOD VALIDATION REINJECTION

Date of Report: 25 AUG 97 at 08:31:39

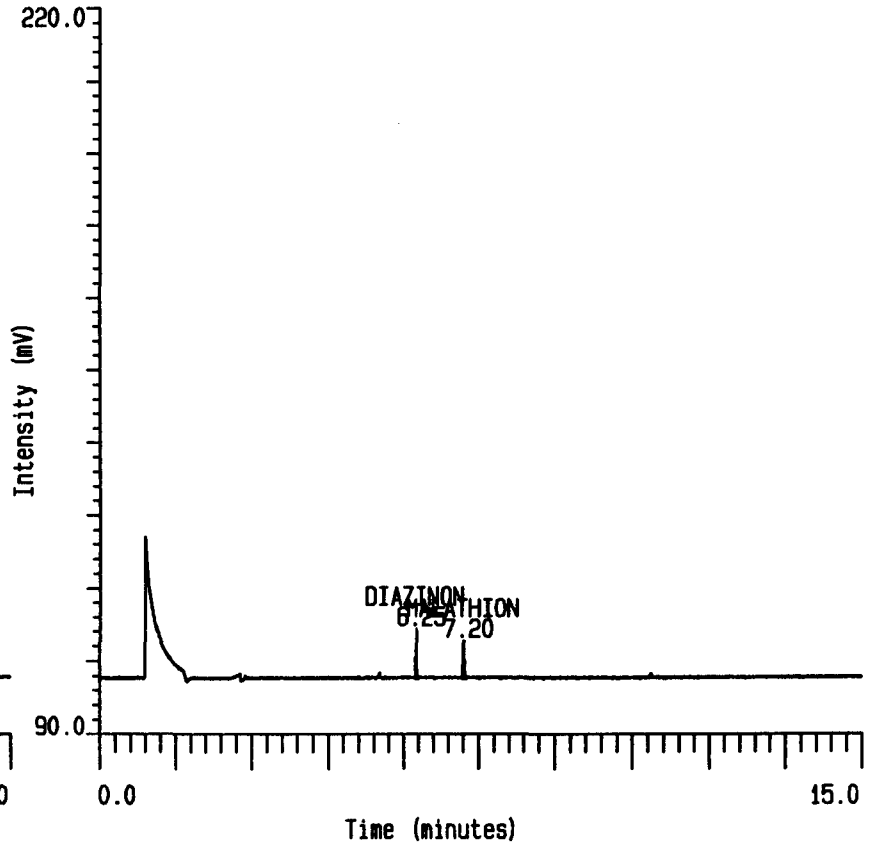
MCDO [43767] 29 PANTS15, 15, 1
43767-107
Acquired on 24-Aug-1997 at 21:32

Peak Name	RT (mins)	Height	ng/mL or ug
DIAZINON	6.25	8263	5.46040
MALATHION	7.21	5573	5.84169



MCDO [43767] 29 PANTS15, 16, 1
GCMIX-G6 10.0 NG/ML STD
Acquired on 24-Aug-1997 at 21:52

Peak Name	RT (mins)	Height	ng/mL or ug
DIAZINON	6.25	8766	9.62929
MALATHION	7.20	6606	11.55490



ABC Laboratories, Inc.

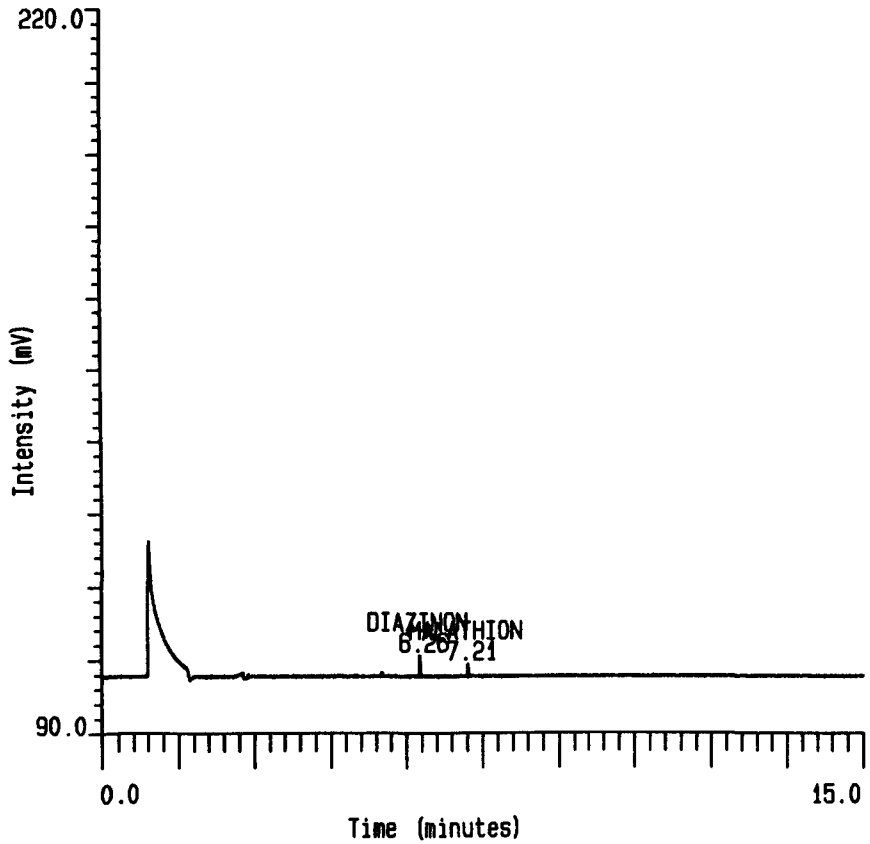
MCPP ver 2.3

43767 PANTS METHOD VALIDATION REINJECTION

Date of Report: 25 AUG 97 at 08:31:39

MCDO [43767] 29 PANTS15,17,1
GCMIX-H7 4.00 NG/ML STD
Acquired on 24-Aug-1997 at 22:12

Peak Name	RT (mins)	Height	ng/mL or ug
DIAZINON	6.26	3847	4.45816
MALATHION	7.21	2354	4.06990



[43767] 29 PANTS15
Reported on 2-SEP-1997 at 15:46
Modified on 25-AUG-1997 at 08:14

List Calibration File

CALIBRATION HEADER INFORMATION

Calibration Title : 43767 PANTS METHOD VALIDATION REINJ
General :
Calibration type..... External standard
Units..... ng/mL or ug
Calibration base..... Height
Reference Peak Identification :
Reference window..... 5.0 %
Minimum window..... 0.50 mins
Peak threshold..... 0.0 %
Uncalibrated Peaks Response Factor :
Response factor source..... User set response factor
Response factor..... 0.0000
Additional Information :
Source library..... None
Initialise on 1st standard..... No
Variation tolerance..... 100.00 %
Calibrant Peak Identification :
Calibrant window..... 0.15 mins
Calibrant threshold..... 0.0 %
Response Factor Calibration Curve :
Curve fit..... Linear
Force through zero..... No
X transformation..... None
Y transformation..... None
Weighting..... 1 / Y
Retention Value Calibration Curve :
Curve fit..... Linear
Force through zero..... No
X transformation..... None
Y transformation..... None
Weighting..... None
Timed Calibration Curve :
Curve fit..... Linear
Force through zero..... No
X transformation..... None
Y transformation..... None
Weighting..... None
No group information entered.

[43767] 29 PANTS15 Page 2
Reported on 2-SEP-1997 at 15:46
Modified on 25-AUG-1997 at 08:14

Peak name : DIAZINON
Expected retention time : 6.26 mins (RT range : 6.19 - 6.34 mins)
Peak window mode..... Global
Group name identifier..... ----
Peak identification mode..... Largest
Must peak..... No
Reference peak..... No
Dilution peak..... No
Retention standard..... No
Response factor mode..... Internal Levels
Purity..... 100.0000

Calibration level	Standard amount	Response factor	Calibration count
06	4.0000	961.6334	1
05	10.0000	876.6003	1
04	20.0000	883.8251	1
03	40.0000	864.9633	1
02	60.0000	1004.3625	1
01	100.0000	957.0258	1

Peak name : MALATHION
Expected retention time : 7.22 mins (RT range : 7.14 - 7.29 mins)
Peak window mode..... Global
Group name identifier..... ----
Peak identification mode..... Largest
Must peak..... No
Reference peak..... No
Dilution peak..... No
Retention standard..... No
Response factor mode..... Internal Levels
Purity..... 100.0000

Calibration level	Standard amount	Response factor	Calibration count
06	4.0000	588.5717	1
05	10.0000	660.6378	1
04	20.0000	505.6534	1
03	40.0000	532.0529	1
02	60.0000	579.5132	1
01	100.0000	585.0341	1

SAMPLE TRACKING FORM

Customer Name: ARTF	Study Director: Loren C. Schrier	Test Material: Diazinon and Malathion	Matrix: Outer Dosimeters (Pants)
ARTF Protocol: ARF003	ABC Study Number: 43767	Outer Cotton (Pants) Dosimeters Repeat Method Validation Set 2	

Extraction	Partitioning	C18 Cleanup	Vial	GC/FPD Analysis	Chromatography review:
CYG 8-21-97 JW 21Aug97	CYG 8-21-97 JW 21Aug97	CYG 8-21-97 JW 21Aug97	JW 21Aug97	21Aug97	22Aug97
					Spreadsheet entry by: 25Aug97

ABC Lab Number	Sample Description (Designate Upper or Lower Legs)	Extraction Volume	Aliquot Taken	AOT Volume, Aliquot for C18 Cleanup	Final Volume and Dilutions	Fortified by: CYG 8-21-97 Witnessed by: JW 21Aug97
43767-105	Control Upper Leg	2500 mL	25.0 mL	15.0 mL, then 5.00 mL	2.00 mL	
43767-106	Control Lower Leg + nominal 5.00 ug Each	2500 mL	① 25.0 mL	15.0 mL, then 5.00 mL	2.00 mL	Fortify with 0.500 mL of 10.0 ug/mL mixed fortification solution (2Mix-F2)
43767-107	Control Upper Leg + nominal 5.00 ug Each	2500 mL	25.0 mL	15.0 mL, then 5.00 mL	2.00 mL	Fortify with 0.500 mL of 10.0 ug/mL mixed fortification solution (2Mix-F2)
43767-108	Control Lower Leg + nominal 50.0 ug Each	2500 mL	25.0 mL	15.0 mL, then 5.00 mL	4.00 mL	Fortify with 1.00 mL of 50.0 ug/mL mixed fortification solution (2Mix-E2)
43767-109	Control Upper Leg + nominal 50.0 ug Each	2500 mL	25.0 mL	15.0 mL, then 5.00 mL	4.00 mL	Fortify with 1.00 mL of 50.0 ug/mL mixed fortification solution (2Mix-E2)
43767-110	Control Lower Leg + nominal 10000 ug Each	2500 mL	25.0 mL	15.0 mL, then 5.00 mL	25.0 mL, then dilute 0.50 mL to 15.5 mL	Fortify with 2.0 mL of 5.00 mg/mL mixed fortification solution (2Mix-A2)
43767-111	Control Upper Leg + nominal 10000 ug Each	2500 mL	① 25.0 mL	15.0 mL, then 5.00 mL	25.0 mL, then dilute 0.50 mL to 15.5 mL	Fortify with 2.0 mL of 5.00 mg/mL mixed fortification solution (2Mix-A2)

Remarks:

DCM: B&J BN794 JW 21Aug97

Acetone: B&J, Lot# BP707 CYG 8-21-97

Methanol: B&J, Lot# B0820 CYG 8-21-97

Hexane: B&J, Lot# BN936 CYG 8-21-97

C18 SPE: Varian Bond Elut 1 g/6 mL, Lot 071340

Ethyl Ether: B&J, Lot# BN234 CYG 8-21-97

Water: Labconco DI

Checked by 2-12-98

Approved by 12Feb98

① Another 25 mL aliquot was taken from the reserve extract and run through the remainder of the method because these samples were contaminated while sonicating. JW 21Aug97

[43767] 29 PANTS12 Page 1
Reported on 22-AUG-1997 at 08:50
Modified on 21-AUG-1997 at 12:43

List Run Sequence File

ANALYST NAME..... LOREN C. SCHRIER
43767 PANTS METHOD VALIDATION

ANALYSIS INFORMATION

Analysis name..... PANTS12
Method name..... PANTS12
Calibration name..... PANTS12
Calibration sequence..... Average Standard
User parameter 1 name..... FINAL VOLUME (ML)
User parameter 2 name..... FACTOR 1
User parameter 3 name..... FACTOR 2

SAMPLE SUMMARY

SAMPLE NUMBER	LIMS ID	SAMPLE NAME
1	----------	EQUILIBRATION
2	----------	EQUILIBRATION
3	----------	SOLVENT BLANK
4	----------	GCMIX-G2 100 NG/ML STD
5	----------	GCMIX-G3 60.0 NG/ML STD
6	----------	43767-105
7	----------	43767-106
8	----------	43767-107 (1)
9	----------	GCMIX-G4 40.0 NG/ML STD
10	----------	43767-108
11	----------	43767-109
12	----------	GCMIX-G5 20.0 NG/ML STD
13	----------	43767-110
14	----------	43767-111
15	----------	GCMIX-G6 10.0 NG/ML STD
16	----------	GCMIX-H7 4.00 NG/ML STD

(1) Data not used - reinject with std PANTS 15. 25 Aug 97

[43767] 29 PANTS12 Page 2
Reported on 22-AUG-1997 at 08:50
Modified on 21-AUG-1997 at 12:43

SAMPLE INFORMATION

SAMPLE NUMBER	TYPE	CALIB LEVEL	UPDATE RT	UPDATE RF	AMOUNT	NUM INJ	BOT NUM
1	Sa	--	-	-	1.00000	1	1
2	Sa	--	-	-	1.00000	1	2
3	Sa	--	-	-	1.00000	1	3
4	St	01	N	I	1.00000	1	4
5	St	02	N	I	1.00000	1	5
6	Sa	--	-	-	1.00000	1	6
7	Sa	--	-	-	1.00000	1	7
8	Sa	--	-	-	1.00000	1	8
9	St	03	N	I	1.00000	1	9
10	Sa	--	-	-	1.00000	1	10
11	Sa	--	-	-	1.00000	1	11
12	St	04	N	I	1.00000	1	12
13	Sa	--	-	-	1.00000	1	13
14	Sa	--	-	-	1.00000	1	14
15	St	05	N	I	1.00000	1	15
16	St	06	N	I	1.00000	1	16

USER PARAMETER VALUES

SAMPLE	FINAL VOLUME (ML)	FACTOR 1	FACTOR 2
1	1.00000	1.00000	1.00000
2	1.00000	1.00000	1.00000
3	2.00000	37500.00000	125000.00000
4	1.00000	1.00000	1.00000
5	1.00000	1.00000	1.00000
6	2.00000	37500.00000	125000.00000
7	2.00000	37500.00000	125000.00000
8	2.00000	37500.00000	125000.00000
9	1.00000	1.00000	1.00000
10	4.00000	37500.00000	125000.00000
11	4.00000	37500.00000	125000.00000
12	1.00000	1.00000	1.00000
13	25.00000	581250.00000	62500.00000
14	25.00000	581250.00000	62500.00000
15	1.00000	1.00000	1.00000
16	1.00000	1.00000	1.00000

[43767] 29 PANTS12 Page 3
Reported on 22-AUG-1997 at 08:50
Modified on 21-AUG-1997 at 12:43

INTERNAL/DILUTION STANDARDS

SAMPLE NUMBER	ISTD1 AMOUNT	ISTD2 AMOUNT	ISTD3 AMOUNT	DIL1 AMOUNT	DIL2 AMOUNT
1	1.00000	1.00000	1.00000	1.00000	1.00000
2	1.00000	1.00000	1.00000	1.00000	1.00000
3	1.00000	1.00000	1.00000	1.00000	1.00000
4	1.00000	1.00000	1.00000	1.00000	1.00000
5	1.00000	1.00000	1.00000	1.00000	1.00000
6	1.00000	1.00000	1.00000	1.00000	1.00000
7	1.00000	1.00000	1.00000	1.00000	1.00000
8	1.00000	1.00000	1.00000	1.00000	1.00000
9	1.00000	1.00000	1.00000	1.00000	1.00000
10	1.00000	1.00000	1.00000	1.00000	1.00000
11	1.00000	1.00000	1.00000	1.00000	1.00000
12	1.00000	1.00000	1.00000	1.00000	1.00000
13	1.00000	1.00000	1.00000	1.00000	1.00000
14	1.00000	1.00000	1.00000	1.00000	1.00000
15	1.00000	1.00000	1.00000	1.00000	1.00000
16	1.00000	1.00000	1.00000	1.00000	1.00000

PROCESSING ORDER

SAMPLE NUMBER	TYPE
4	Standard
5	Standard
9	Standard
12	Standard
15	Standard
16	Standard
1	Sample
2	Sample
3	Sample
6	Sample
7	Sample
8	Sample
10	Sample
11	Sample
13	Sample
14	Sample

Gas Chromatographic Instrument Parameters Form

ABC Laboratory Study Number: 43767
Customer Identification: ARTF

Instrument: HP 5890 Series II Material ID# 1652-0120
Autoinjector: HP 7673B Material ID# 1625-802A

Column: HP-5MS, 30 M X 0.25 mm, 0.25 μm film thickness
Serial#: 56253614

Detector Type: FPD/P

Electrometer: Range 4

Temperatures:
- Injector (°C): 230
- Detector (°C): 230
- Column:
  - Initial Temp.(°C): 95
  - Initial Time: 1.0 min.
  - Program Rate 1: 30 °C/min to 230 °C, hold 4 min
  - Program Rate 2: 40 °C/min to 290 °C, hold 4 min

Carrier Gas Flow Rate:	He	1.6 mL/min
Septum Purge:	He	2.0 mL/min
Make Up Gas:	N_2	21 mL/min
Air Flow Rate:		98 mL/min.
Hydrogen Flow Rate:		69 mL/min.
Purge Valve:	Off at 0 min, on at 0.75 min	

Injection Volume: 2 μL

Run Sequence File: PANTS #12 (1)

Quantitation Standards: GCmix-62 → 66, H7

(1) Evtm Error ZL 21 Ag 97

Prepared By: [signature] Date: 21 Ag 97

Checked By: [signature] Date: 2-12-98

MCDO [43767] 29 PANTS12

ABC Laboratories, Inc.
Sample Information Report ver 3.3

Report Date: 22 AUG 97 at 08:58:04
Page 1

Sample Name	No.	Type	Level	User Parameter 1 FINAL VOLUME (ML)	User Parameter 2 FACTOR 1	User Parameter 3 FACTOR 2
EQUILIBRATION	1	SA		1.00000	1.00000	1.00000
EQUILIBRATION	2	SA		1.00000	1.00000	1.00000
SOLVENT BLANK	3	SA		2.00000	37500.00000	125000.00000
GCMIX-G2 100 NG/ML STD	4	ST	01	1.00000	1.00000	1.00000
GCMIX-G3 60.0 NG/ML STD	5	ST	02	1.00000	1.00000	1.00000
43767-105	6	SA		2.00000	37500.00000	125000.00000
43767-106	7	SA		2.00000	37500.00000	125000.00000
43767-107	8	SA		2.00000	37500.00000	125000.00000
GCMIX-G4 40.0 NG/ML STD	9	ST	03	1.00000	1.00000	1.00000
43767-108	10	SA		4.00000	37500.00000	125000.00000
43767-109	11	SA		4.00000	37500.00000	125000.00000
GCMIX-G5 20.0 NG/ML STD	12	ST	04	1.00000	1.00000	1.00000
43767-110	13	SA		25.00000	581250.00000	62500.00000
43767-111	14	SA		25.00000	581250.00000	62500.00000
GCMIX-G6 10.0 NG/ML STD	15	ST	05	1.00000	1.00000	1.00000
GCMIX-H7 4.00 NG/ML STD	16	ST	06	1.00000	1.00000	1.00000

MCDO [43767] 29 PANTS12

ABC Laboratories, Inc.
Results Information Report ver 3.3
Component Name: DIAZINON

Report Date: 22 AUG 97
Time: 08:58:04
Page: 1

Sample Name	SMP #	INJ #	RT(mins)	Height	NG/ML	CAL. RANG	Peak Type	Bad INJ
EQUILIBRATION	1	1	5.48	116835	112.87520	OVER	OB	---
EQUILIBRATION	2	1	5.47	67310	65.03193		OB	---
SOLVENT BLANK	3	1	0.00	0	0.00000	UNDR	OB	---
GCMIX-G2 100 NG/ML STD	4	1	5.48	104038	100.51279		OB	---
GCMIX-G3 60.0 NG/ML STD	5	1	5.48	60474	58.42816		OB	---
43767-105	6	1	5.48	1042	0.60901	UNDR	OB	---
43767-106	7	1	5.48	9371	5.43685		O	---
43767-107	8	1	5.48	9648	5.59715 (1)		OB	---
GCMIX-G4 40.0 NG/ML STD	9	1	5.47	41469	40.06931		OB	---
43767-108	10	1	5.48	38526	44.67090		OB	---
43767-109	11	1	5.47	43511	50.45033		OB	---
GCMIX-G5 20.0 NG/ML STD	12	1	5.48	22048	21.30771		OBF	---
43767-110	13	1	5.48	37989	8534.36719		OB	---
43767-111	14	1	5.49	41160	9246.58887		OB	---
GCMIX-G6 10.0 NG/ML STD	15	1	5.47	10295	9.95406		OF	---
GCMIX-H7 4.00 NG/ML STD	16	1	5.47	3985	3.85869		OB	---

(1) Data not used.
Reinjected.
25 Aug 97

MCDO [43767] 29 PANTS12

ABC Laboratories, Inc.
Results Information Report ver 3.3
Component Name: MALATHION

Report Date: 22 AUG 97
Time: 08:58:04
Page: 1

Sample Name	SMP #	INJ #	RT(mins)	Height	NG/ML	CAL. RANG	Peak Type	Bad INJ
EQUILIBRATION	1	1	6.19	72051	110.07915	OVER	OB	---
EQUILIBRATION	2	1	6.18	42888	65.23362		OB	---
SOLVENT BLANK	3	1	0.00	0	0.00000	UNDR	OB	---
GCMIX-G2 100 NG/ML STD	4	1	6.19	64424	98.35173		OB	---
GCMIX-G3 60.0 NG/ML STD	5	1	6.19	38257	58.11187		OBF	---
43767-105	6	1	0.00	0	0.00000	UNDR	OB	---
43767-106	7	1	6.20	6208	5.29656		OB	---
43767-107	8	1	6.19	7264	6.27104 (1)		OB	---
GCMIX-G4 40.0 NG/ML STD	9	1	6.18	27908	42.19673		OB	---
43767-108	10	1	6.19	28922	52.50805		OB	---
43767-109	11	1	6.19	29879	54.27422		OB	---
GCMIX-G5 20.0 NG/ML STD	12	1	6.19	14236	21.17280		O	---
43767-110	13	1	6.19	26946	9466.93457		OB	---
43767-111	14	1	6.20	28436	9999.71680		OBF	---
GCMIX-G6 10.0 NG/ML STD	15	1	6.18	7883	11.40327		OB	---
GCMIX-H7 4.00 NG/ML STD	16	1	6.18	2619	3.30819		OB	---

(1) Data not used. Exaggerated malathion peak. Reinjected.
[illegible] 25 Aug 97

Acquisition and Peak Processing Parameters Report Print Date and Time : 22 AUG 97 09:07:27
Version 2 Page : 1
MCDO [43767] 29 PANTS12 Based on Sample Number : 1 Injection Number : 1

ACQUISITION PARAMETERS
Data Collection :
Length of Run..... 14.99 mins
Post Injection Delay..... 0.00 mins
Sampling Rate..... 15.00 Hz
Baseline Offset :
Adjust Baseline..... Yes
Baseline Offset..... 10.00 %

PEAK PROCESSING PARAMETERS
Auto Process Parameters :
Peak Threshold..... 0.10
Baseline Test..... 4
Peak Trend..... 4
Separation Parameters :
Shoulder Sensitivity..... 0.10
Rider Sensitivity..... 0.05
Rejection Parameters :
Minimum Peak Width..... 0.00 secs
Minimum Peak Height..... 500.00 uV
Minimum Peak Area..... 1000.00 uVs
Ignore Flat Top Peak..... No
User Imposed Action Control :
Forced Baseline..... No
Suppress Integration..... Yes
Tangent Skimming..... No
Shoulder Detection..... No
Data Bunching..... No
Negative Detection..... No
Integration Modes :
Retention Time Integration..... No
Square Root Area and Height..... No

PROCESSING ACTIONS

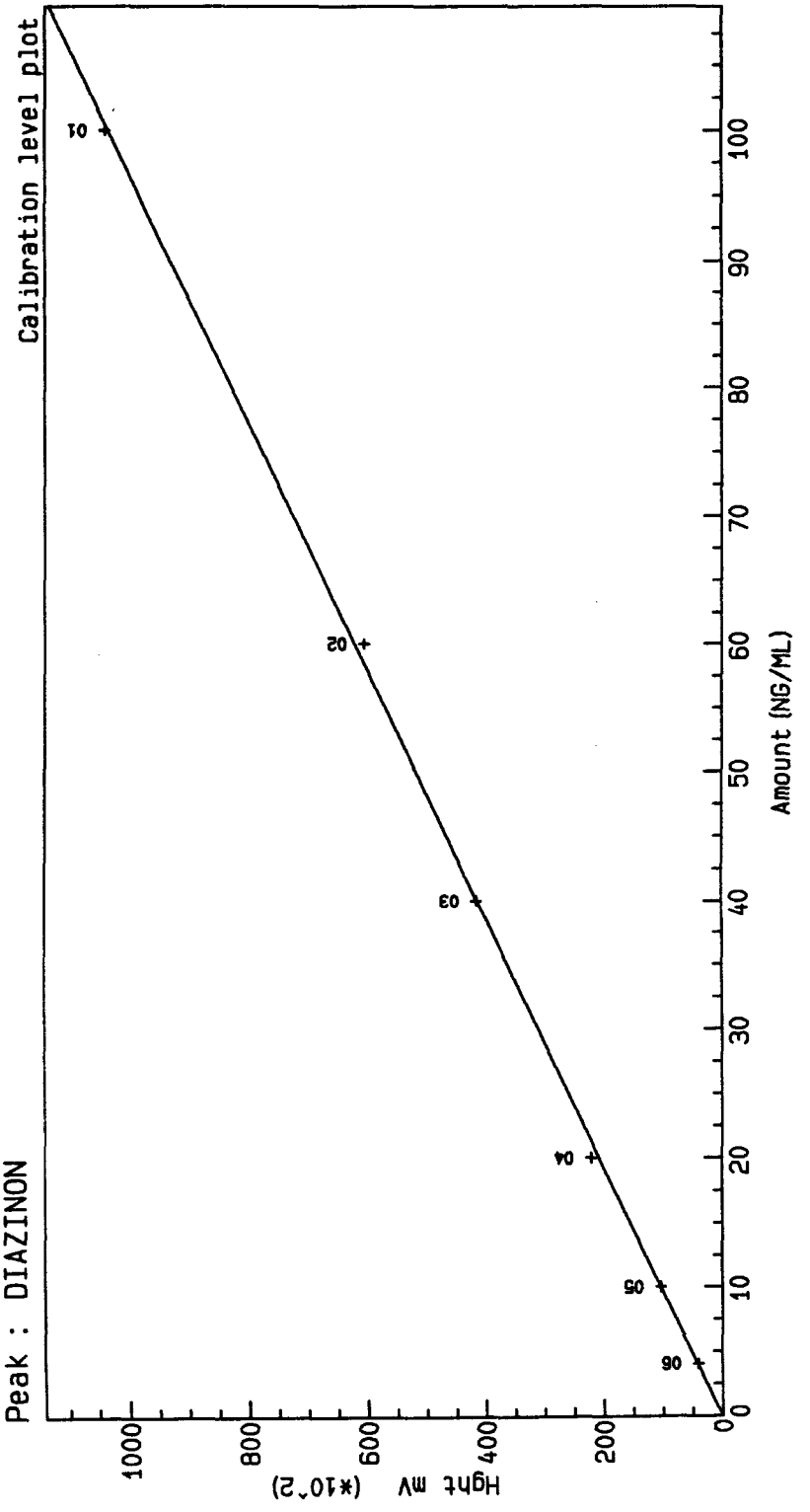
Time (mins)	Force Baseline	Integrate Suppress	Tangent Skim	Bunch Size	Shoulder Detect	Negative Detect
0.00	--	SI	_	0	--	--
5.00	--	ES	_	0	--	--
7.00	--	SI	_	0	--	--

Calibration last modified on 22-Aug-1997 at 08:54
Calibration Sequence..... AVERAGE

These parameters apply to all injections of set PANTS12 with no exceptions

ABC Laboratories, Inc. Multichrom ver 1.8-2

Calibration Name : 29 PANTS12.
43767 OUTER DOSIMETERS PANTS METHOD VALIDATION
Peak : DIAZINON



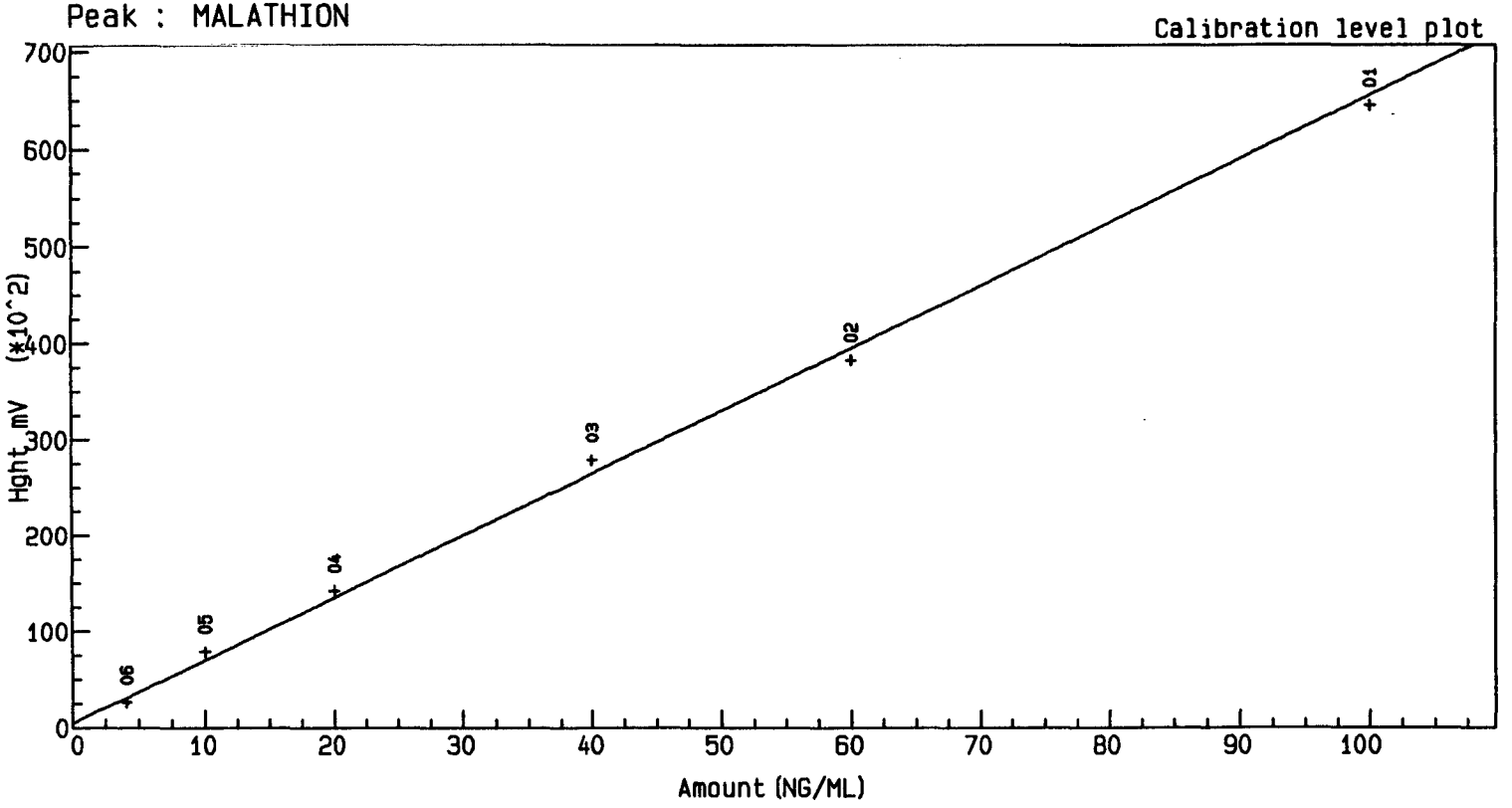
Constant : -9.07375
1st degree : 1.03517E+3

Curve fit : Linear
Correlation coefficient : 0.99966
Standard error : 1.09437E+3

Reported on 22-AUG-1997 at 09:08

ABC Laboratories, Inc. Multichrom ver 1.8-2

Calibration Name : 29 PANTS12.
43767 OUTER DOSIMETERS PANTS METHOD VALIDATION
Peak : MALATHION



Constant : 4.67515E+2
1st degree : 6.50288E+2

Curve fit : Linear
Correlation coefficient : 0.99881
Standard error : 1.25636E+3

Reported on 22-AUG-1997 at 09:08

ABC Laboratories, Inc.

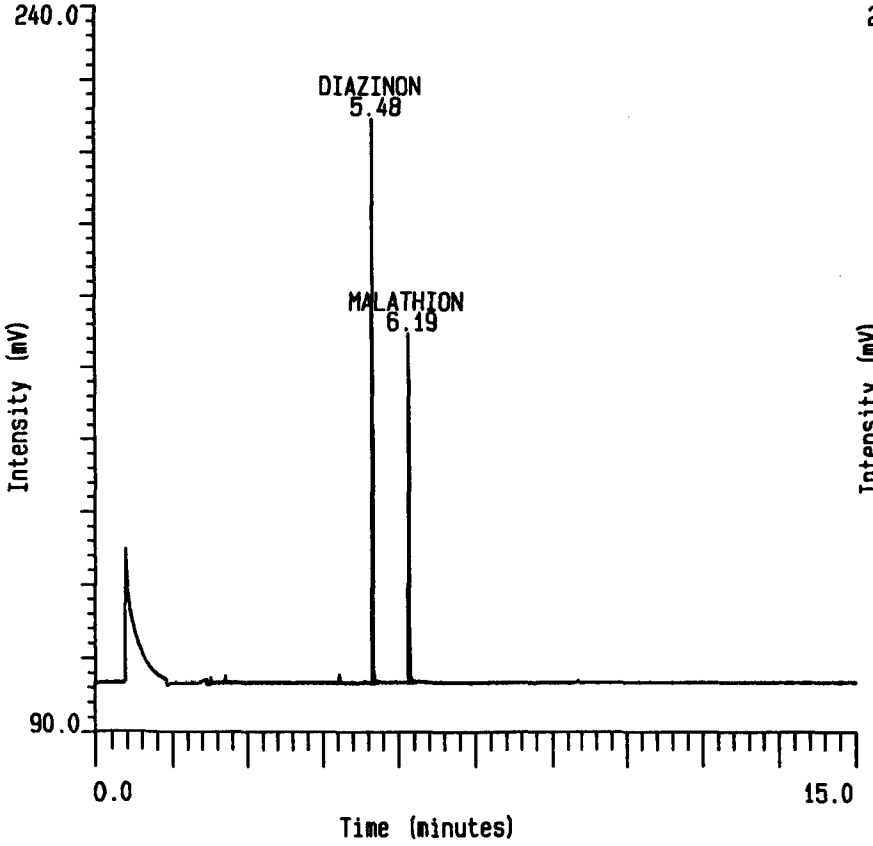
MCPP ver 2.3

43767 PANTS METHOD VALIDATION

Date of Report: 22 AUG 97 at 09:09:33

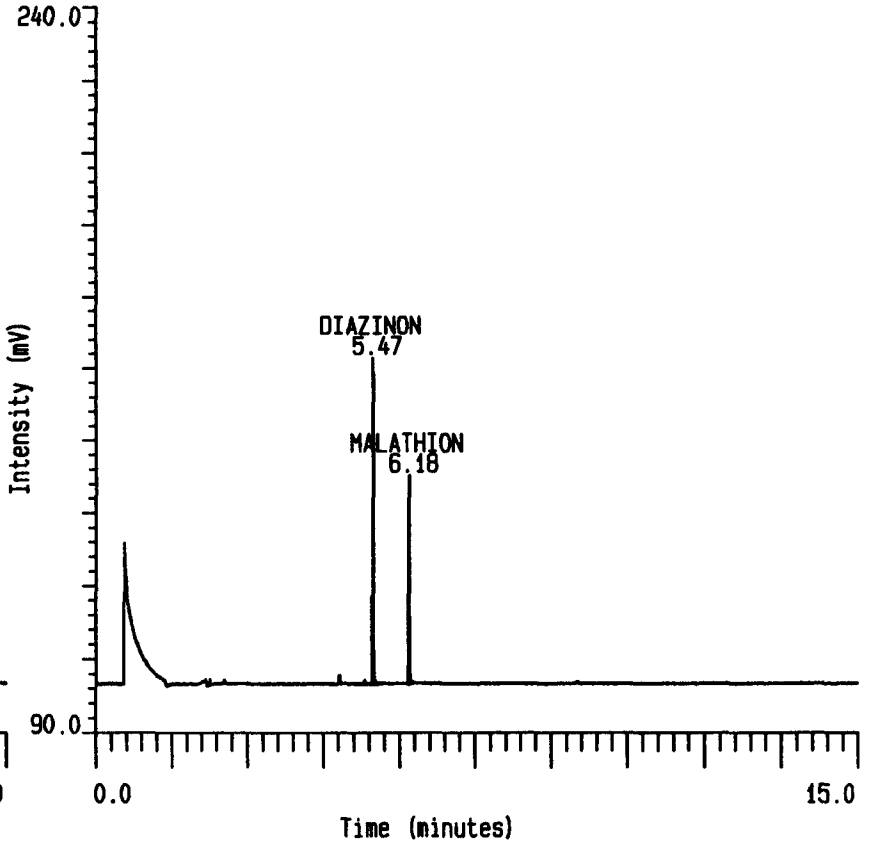
MCDO [43767] 29 PANTS12, 1, 1
EQUILIBRATION
Acquired on 22-Aug-1997 at 03:12

Peak Name	RT (mins)	Height	NG/ML
DIAZINON	5.48	116835	112.87520
MALATHION	6.19	72051	110.07915



MCDO [43767] 29 PANTS12, 2, 1
EQUILIBRATION
Acquired on 22-Aug-1997 at 03:32

Peak Name	RT (mins)	Height	NG/ML
DIAZINON	5.47	67310	65.03193
MALATHION	6.18	42888	65.23362



ABC Laboratories, Inc.

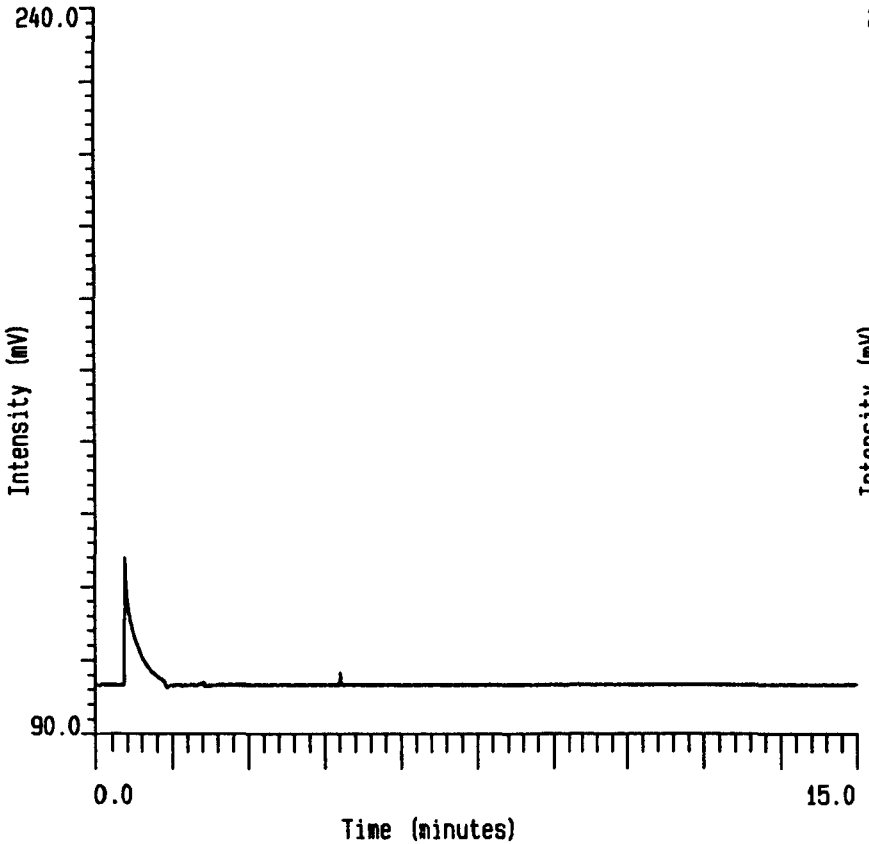
MCPP ver 2.3

43767 PANTS METHOD VALIDATION

Date of Report: 22 AUG 97 at 09:09:33

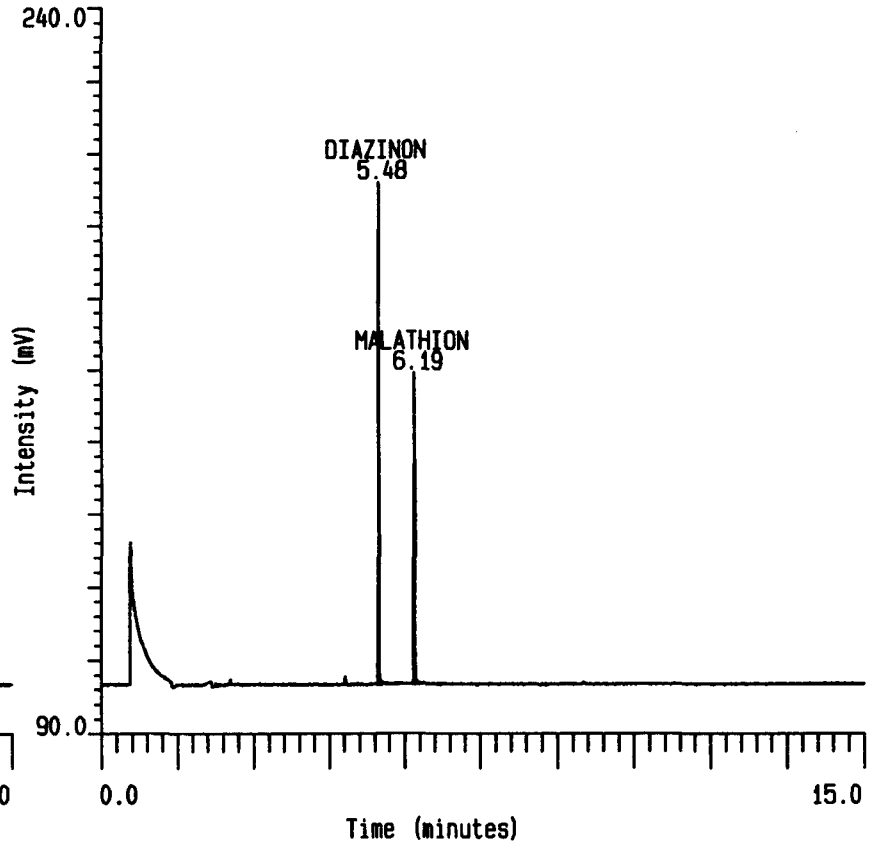
MCDO [43767] 29 PANTS12,3,1
SOLVENT BLANK
Acquired on 22-Aug-1997 at 03:52

Peak Name	RT (mins)	Height	NG/ML
DIAZINON	0.00	0	0
MALATHION	0.00	0	0



MCDO [43767] 29 PANTS12,4,1
GCMIX-G2 100 NG/ML STD
Acquired on 22-Aug-1997 at 04:12

Peak Name	RT (mins)	Height	NG/ML
DIAZINON	5.48	104038	100.51279
MALATHION	6.19	64424	98.35173



ABC Laboratories, Inc.

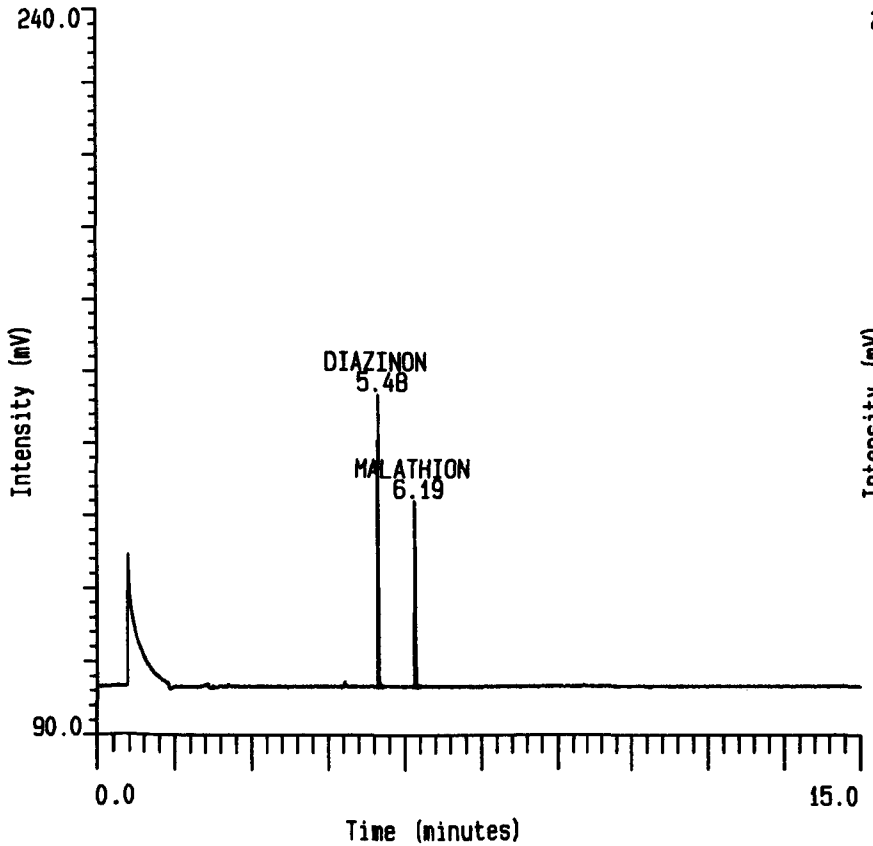
MCPP ver 2.3

43767 PANTS METHOD VALIDATION

Date of Report: 22 AUG 97 at 09:09:33

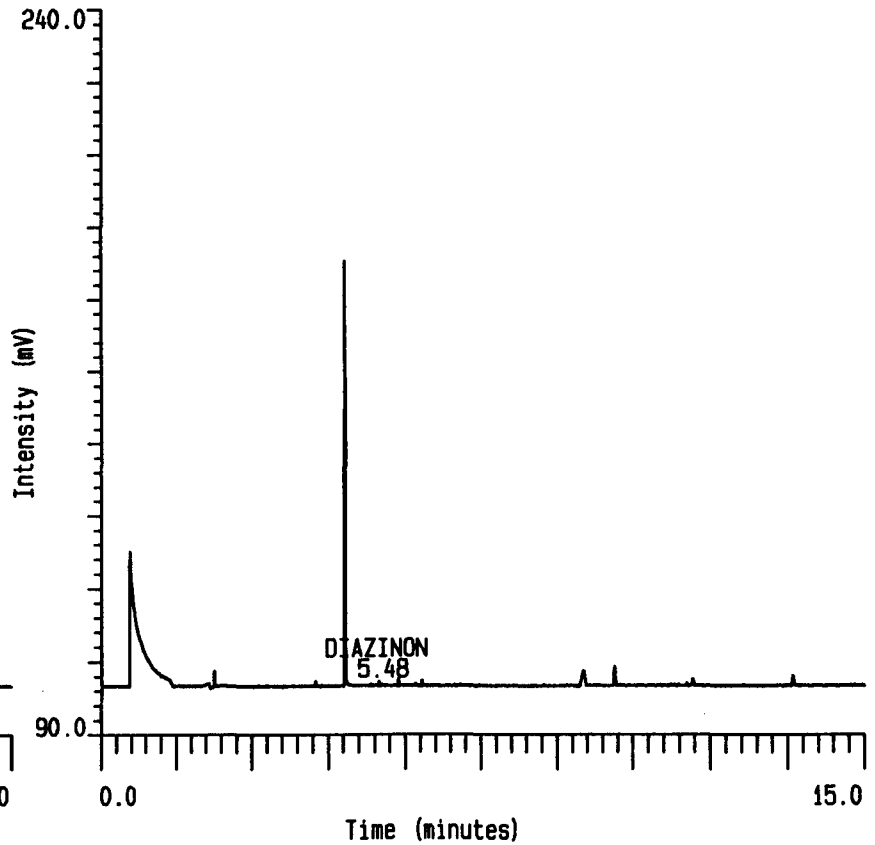
MCDO [43767] 29 PANTS12,5,1
GCMIX-G3 60.0 NG/ML STD
Acquired on 22-Aug-1997 at 04:33

Peak Name	RT (mins)	Height	NG/ML
DIAZINON	5.48	60474	58.42816
MALATHION	6.19	38257	58.11187



MCDO [43767] 29 PANTS12,6,1
43767-105
Acquired on 22-Aug-1997 at 04:53

Peak Name	RT (mins)	Height	NG/ML
DIAZINON	5.48	1042	0.60901
MALATHION	0.00	0	0



ABC Laboratories, Inc.

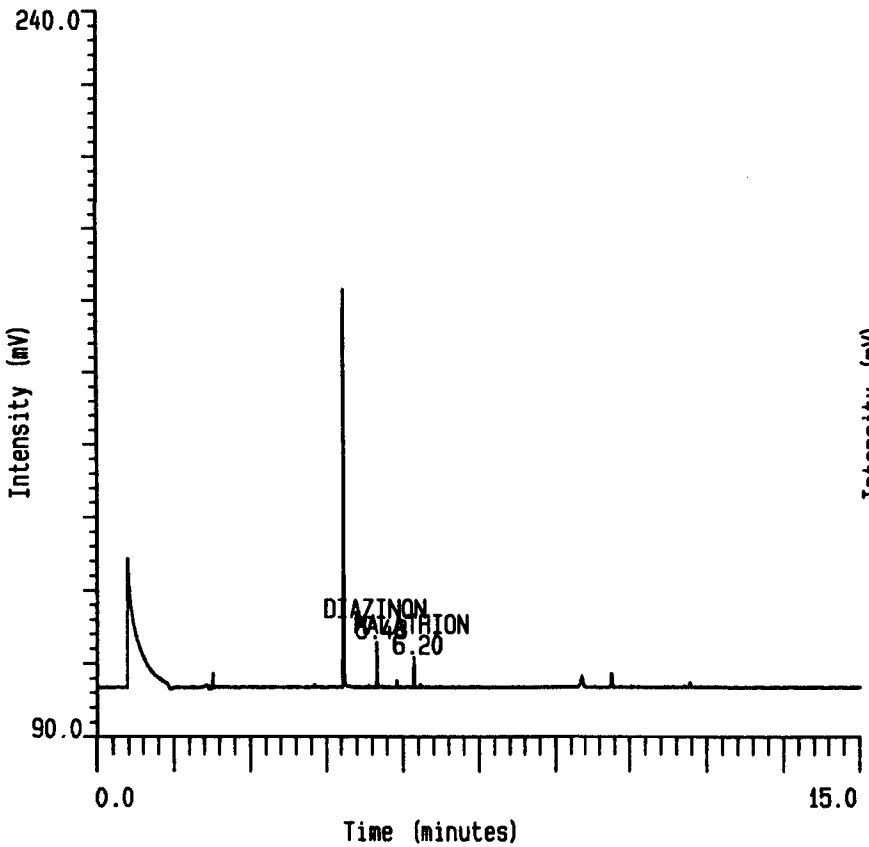
MCPP ver 2.3

43767 PANTS METHOD VALIDATION

Date of Report: 22 AUG 97 at 09:09:33

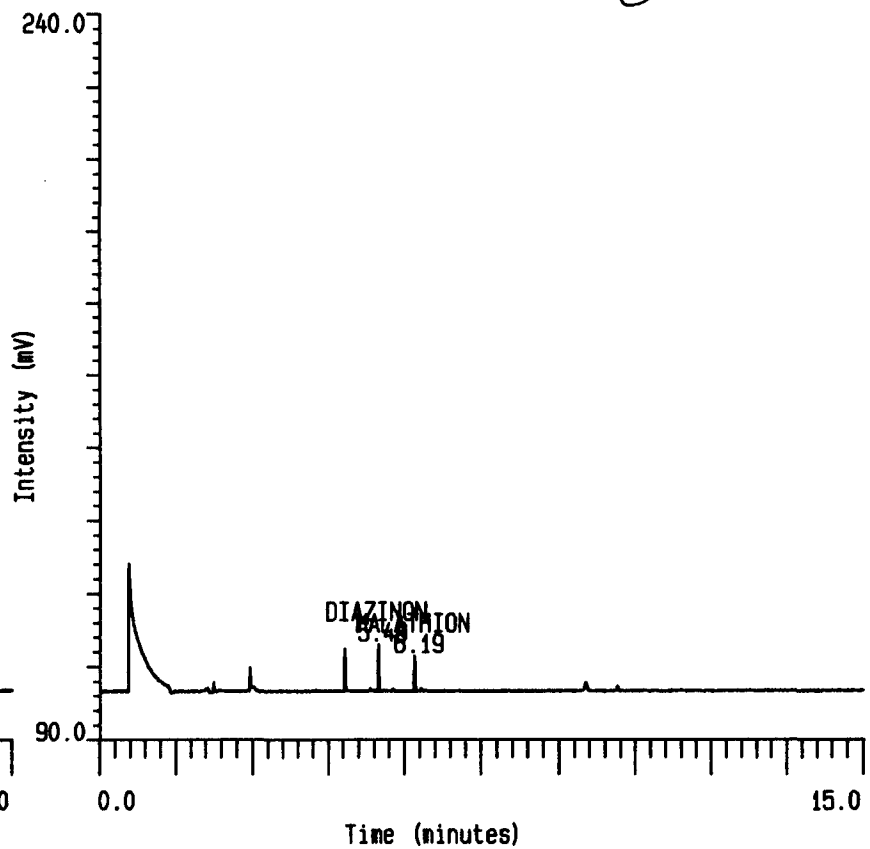
MCDO [43767] 29 PANTS12,7,1
43767-106
Acquired on 22-Aug-1997 at 05:13

Peak Name	RT (mins)	Height	NG/ML
DIAZINON	5.48	9371	5.43685
MALATHION	6.20	6208	5.29656



MCDO [43767] 29 PANTS12,8,1
43767-107
Acquired on 22-Aug-1997 at 05:33

Peak Name	RT (mins)	Height	NG/ML
DIAZINON	5.48	9648 ①	5.59715
MALATHION	6.19	7264 ①	6.27104



① Data not used. AH 2-12-98

ABC Laboratories, Inc.

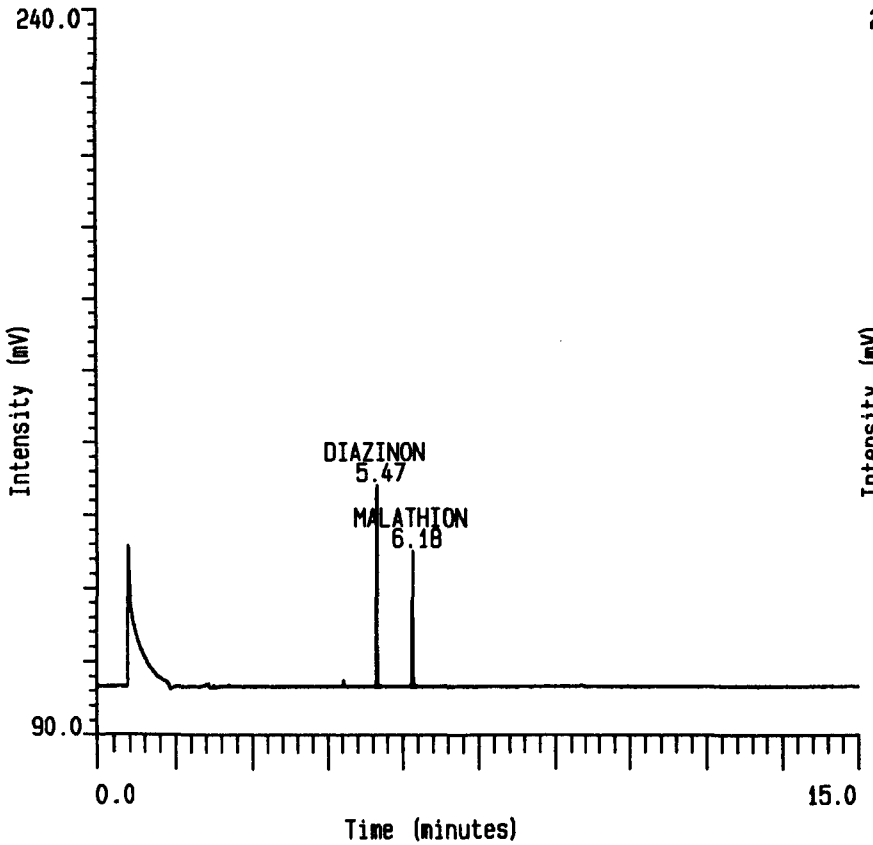
MCPP ver 2.3

43767 PANTS METHOD VALIDATION

Date of Report: 22 AUG 97 at 09:09:33

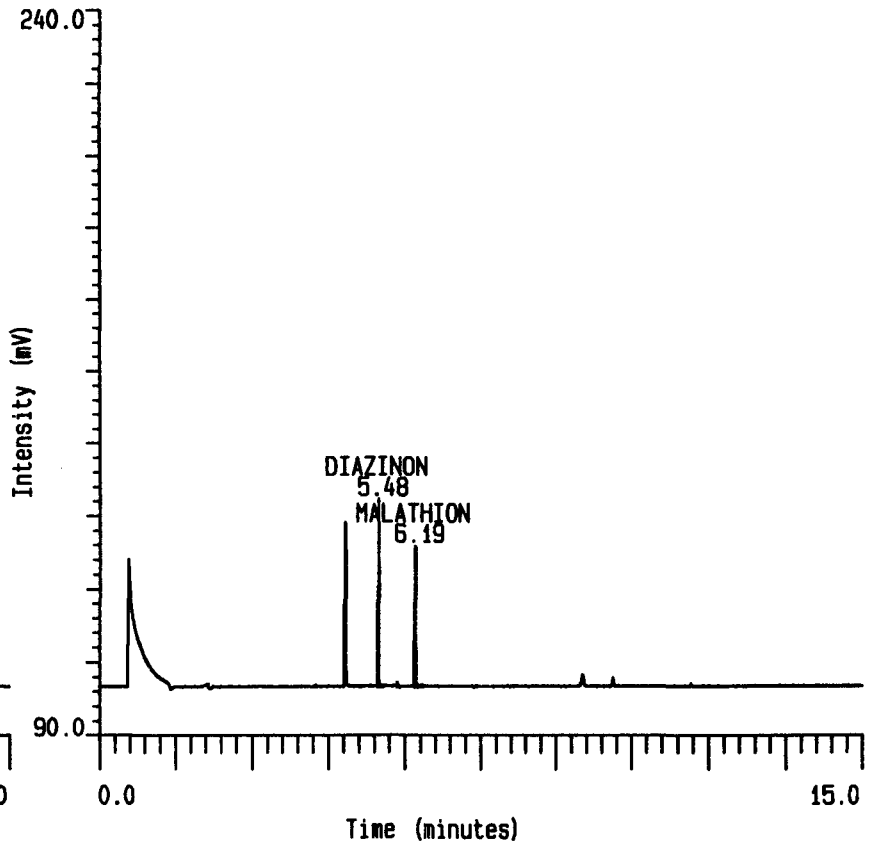
MCDO [43767] 29 PANTS12,9,1
GCMIX-G4 40.0 NG/ML STD
Acquired on 22-Aug-1997 at 05:53

Peak Name	RT (mins)	Height	NG/ML
DIAZINON	5.47	41469	40.06931
MALATHION	6.18	27908	42.19673



MCDO [43767] 29 PANTS12,10,1
43767-108
Acquired on 22-Aug-1997 at 06:13

Peak Name	RT (mins)	Height	NG/ML
DIAZINON	5.48	38526	44.67090
MALATHION	6.19	28922	52.50805



ABC Laboratories, Inc.

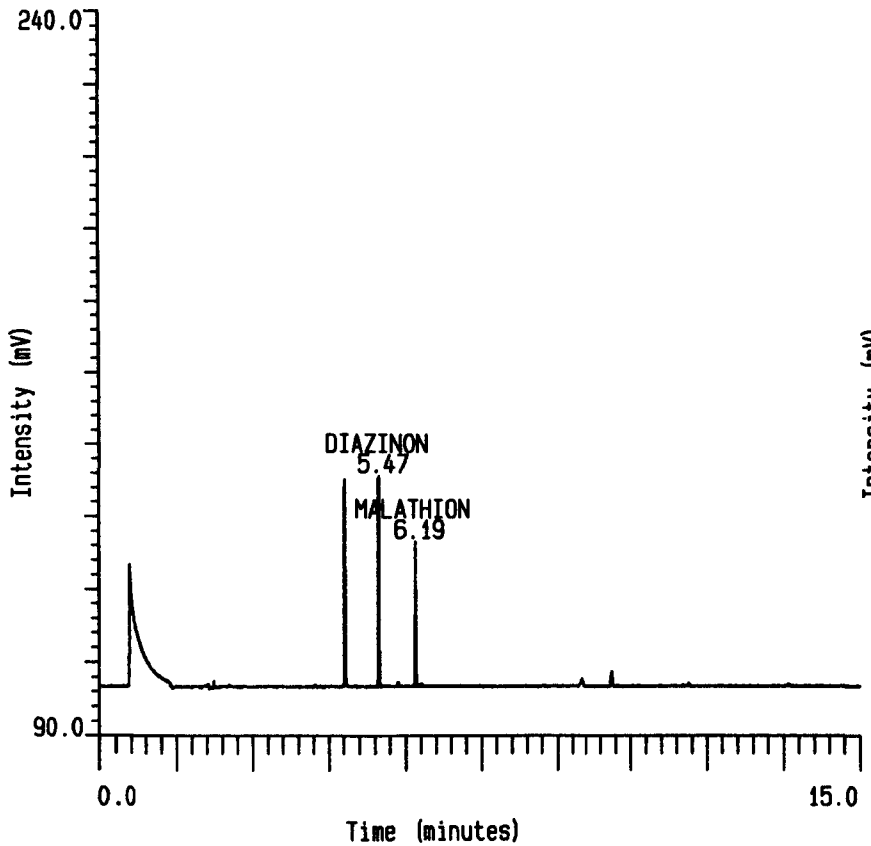
MCPP ver 2.3

43767 PANTS METHOD VALIDATION

Date of Report: 22 AUG 97 at 09:09:33

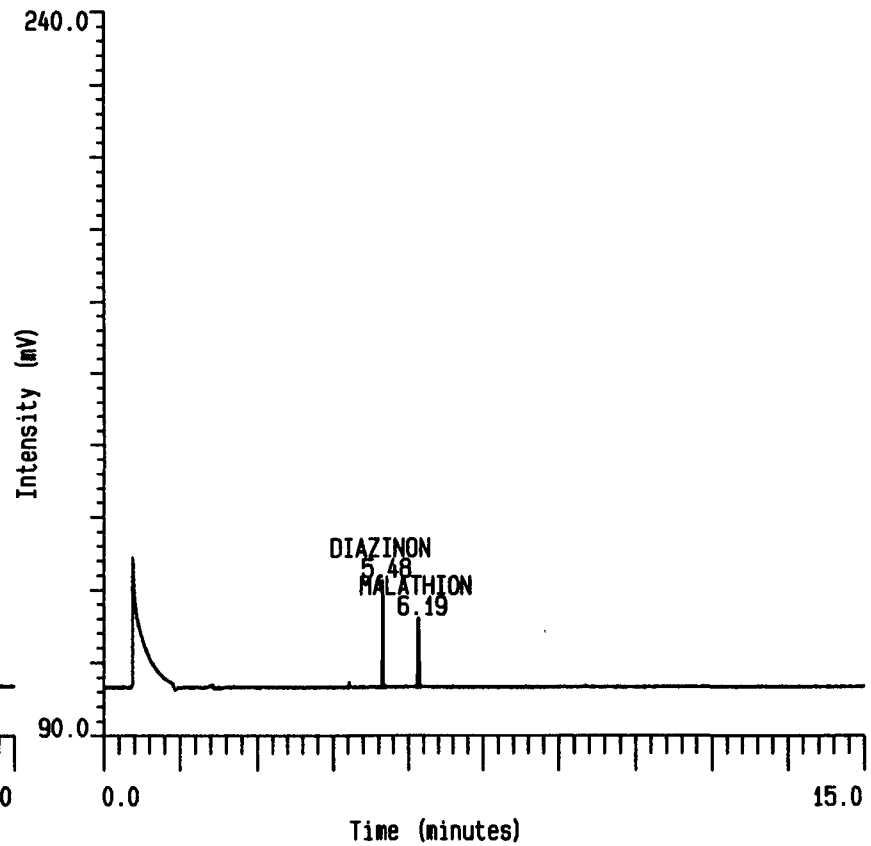
MCDO [43767] 29 PANTS12,11,1
43767-109
Acquired on 22-Aug-1997 at 06:33

Peak Name	RT (mins)	Height	NG/ML
DIAZINON	5.47	43511	50.45033
MALATHION	6.19	29879	54.27422



MCDO [43767] 29 PANTS12,12,1
GCMIX-G5 20.0 NG/ML STD
Acquired on 22-Aug-1997 at 06:53

Peak Name	RT (mins)	Height	NG/ML
DIAZINON	5.48	22048	21.30771
MALATHION	6.19	14236	21.17280



ABC Laboratories, Inc.

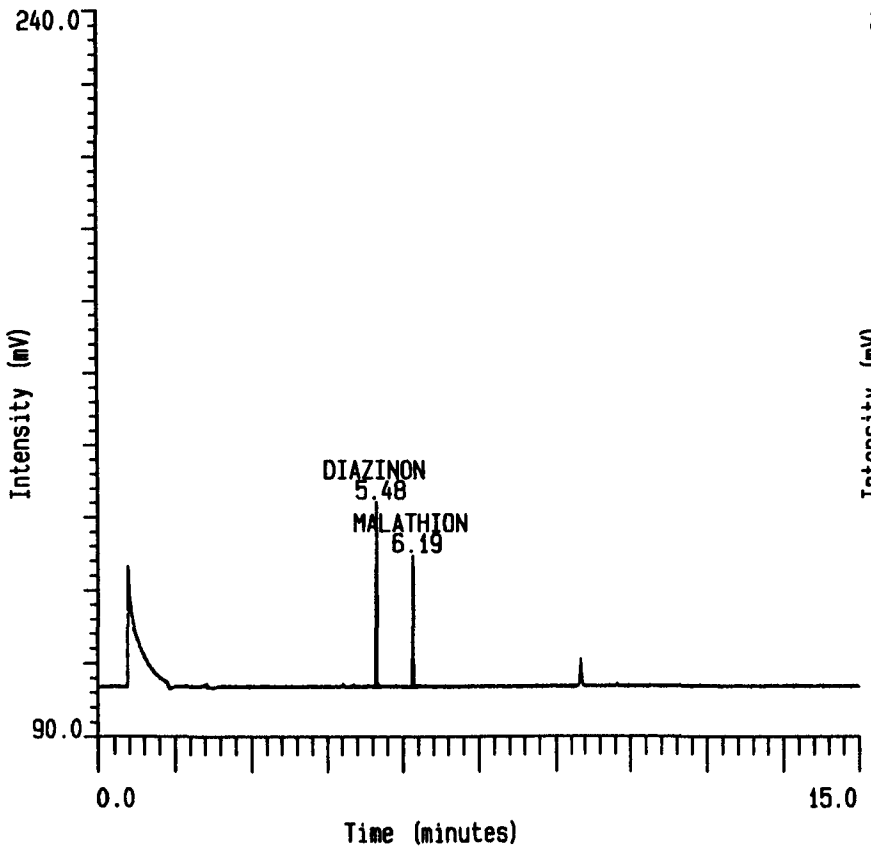
MCPP ver 2.3

43767 PANTS METHOD VALIDATION

Date of Report: 22 AUG 97 at 09:09:33

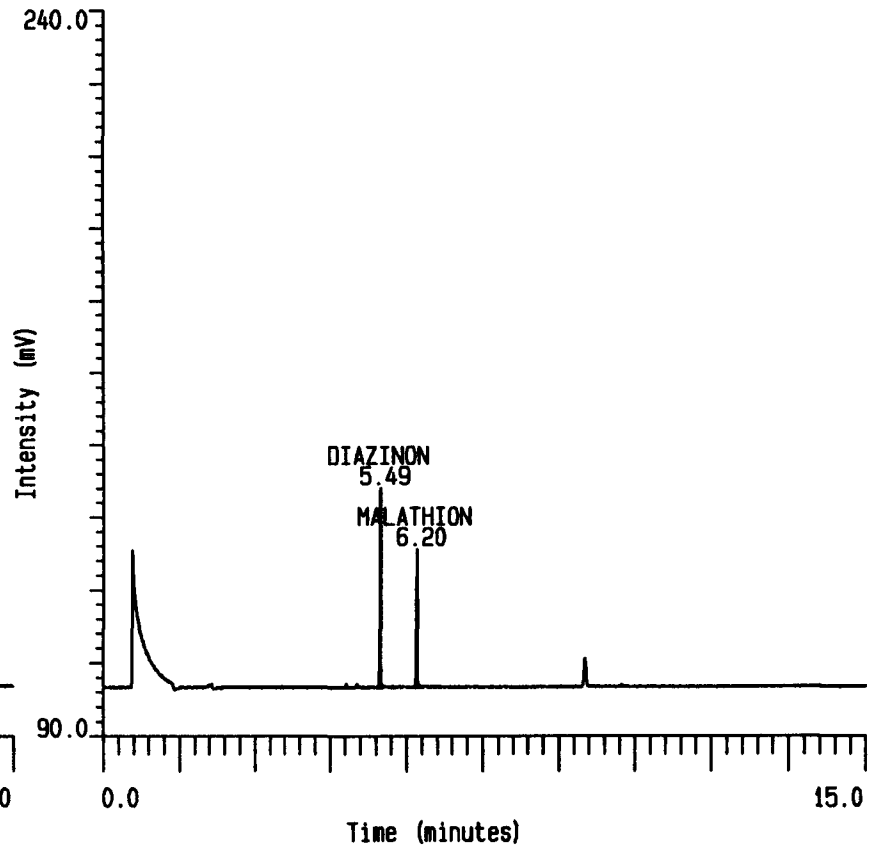
MCDO [43767] 29 PANTS12, 13, 1
43767-110
Acquired on 22-Aug-1997 at 07:13

Peak Name	RT (mins)	Height	NG/ML
DIAZINON	5.48	37989	8534.36719
MALATHION	6.19	26946	9466.93457



MCDO [43767] 29 PANTS12, 14, 1
43767-111
Acquired on 22-Aug-1997 at 07:33

Peak Name	RT (mins)	Height	NG/ML
DIAZINON	5.49	41160	9246.58887
MALATHION	6.20	28436	9999.71680



ABC Laboratories, Inc.

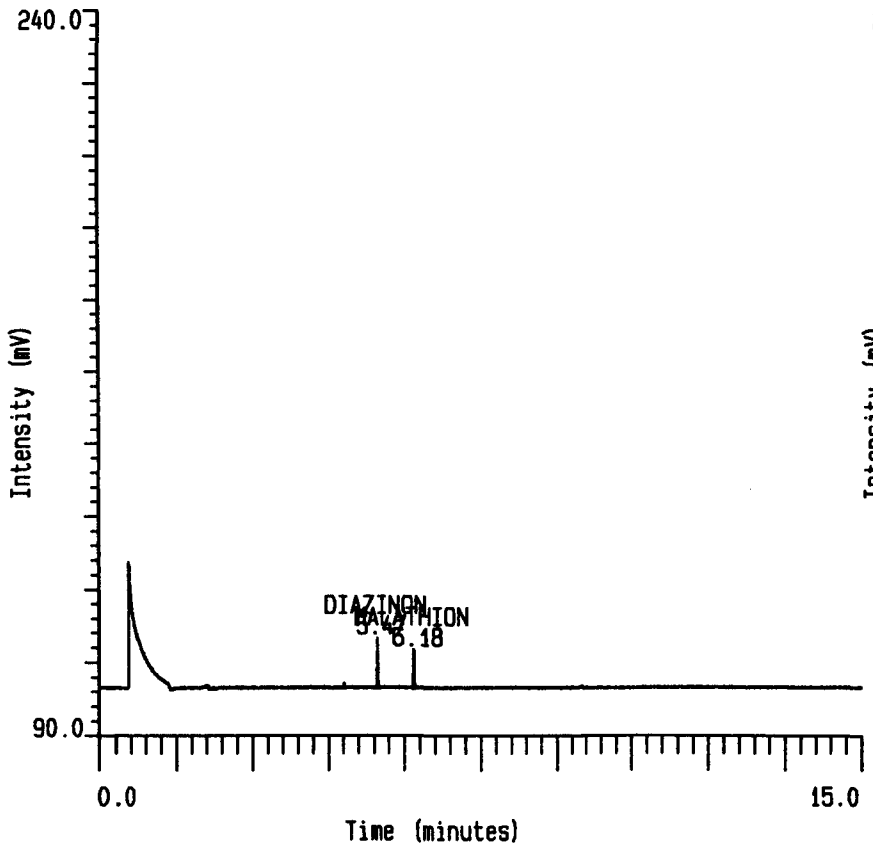
MCPP ver 2.3

43767 PANTS METHOD VALIDATION

Date of Report: 22 AUG 97 at 09:09:33

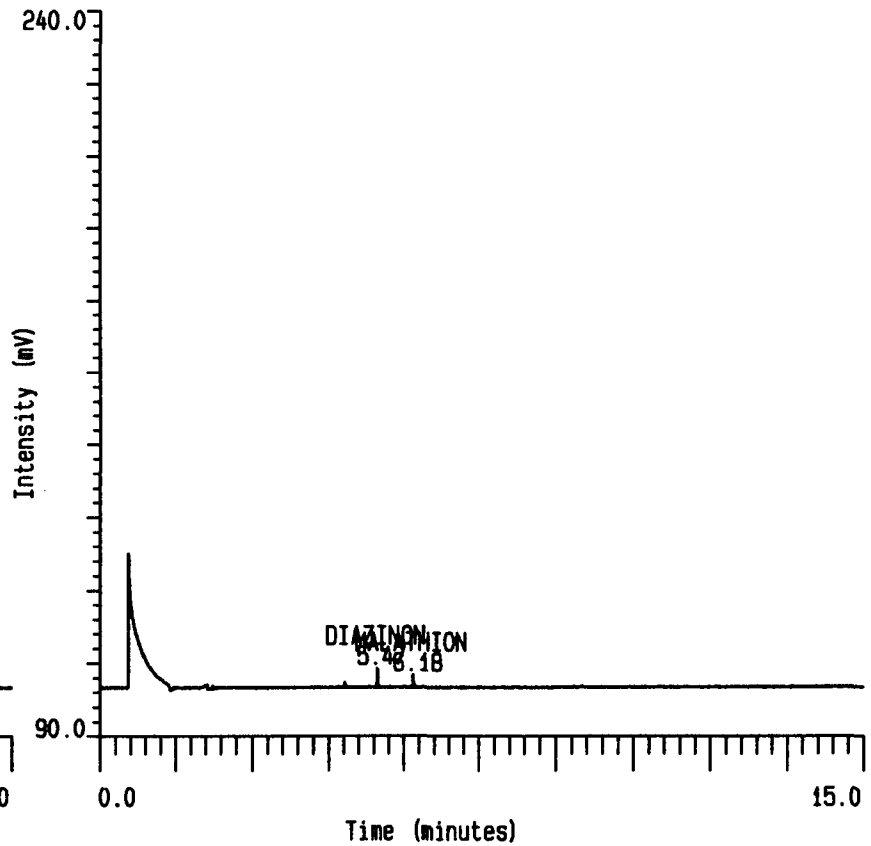
MCDO [43767] 29 PANTS12,15,1
GCMIX-G6 10.0 NG/ML STD
Acquired on 22-Aug-1997 at 07:53

Peak Name	RT (mins)	Height	NG/ML
DIAZINON	5.47	10295	9.95406
MALATHION	6.18	7883	11.40327



MCDO [43767] 29 PANTS12,16,1
GCMIX-H7 4.00 NG/ML STD
Acquired on 22-Aug-1997 at 08:13

Peak Name	RT (mins)	Height	NG/ML
DIAZINON	5.47	3985	3.85869
MALATHION	6.18	2619	3.30819



[43767] 29 PANTS12 Page 1
Reported on 2-SEP-1997 at 15:47
Modified on 22-AUG-1997 at 08:54

List Calibration File

CALIBRATION HEADER INFORMATION

Calibration Title : 43767 OUTER DOSIMETERS PANTS METHOD VALIDATION
General :
Calibration type..... External standard
Units..... NG/ML
Calibration base..... Height
Reference Peak Identification :
Reference window..... 5.0 %
Minimum window..... 0.50 mins
Peak threshold..... 0.0 %
Uncalibrated Peaks Response Factor :
Response factor source..... User set response factor
Response factor..... 0.0000
Additional Information :
Source library..... None
Initialise on 1st standard..... No
Variation tolerance..... 100.00 %
Calibrant Peak Identification :
Calibrant window..... 0.15 mins
Calibrant threshold..... 0.0 %
Response Factor Calibration Curve :
Curve fit..... Linear
Force through zero..... No
X transformation..... None
Y transformation..... None
Weighting..... 1 / Y
Retention Value Calibration Curve :
Curve fit..... Linear
Force through zero..... No
X transformation..... None
Y transformation..... None
Weighting..... None
Timed Calibration Curve :
Curve fit..... Linear
Force through zero..... No
X transformation..... None
Y transformation..... None
Weighting..... None
No group information entered.

[43767] 29 PANTS12 Page 2
Reported on 2-SEP-1997 at 15:47
Modified on 22-AUG-1997 at 08:54

Peak name : DIAZINON
Expected retention time : 5.50 mins (RT range : 5.43 - 5.57 mins)

Peak window mode..... Global
Group name identifier..... ----
Peak identification mode..... Largest
Must peak..... No
Reference peak..... No
Dilution peak..... No
Retention standard..... No
Response factor mode..... Internal Levels
Purity..... 100.0000

Calibration level	Standard amount	Response factor	Calibration count
06	4.0000	996.3270	1
05	10.0000	1029.5018	1
04	20.0000	1102.3961	1
03	40.0000	1036.7319	1
02	60.0000	1007.8953	1
01	100.0000	1040.3826	1

Peak name : MALATHION
Expected retention time : 6.20 mins (RT range : 6.13 - 6.27 mins)

Peak window mode..... Global
Group name identifier..... ----
Peak identification mode..... Largest
Must peak..... No
Reference peak..... No
Dilution peak..... No
Retention standard..... No
Response factor mode..... Internal Levels
Purity..... 100.0000

Calibration level	Standard amount	Response factor	Calibration count
06	4.0000	654.6974	1
05	10.0000	788.2930	1
04	20.0000	711.7968	1
03	40.0000	697.6888	1
02	60.0000	637.6163	1
01	100.0000	644.2449	1

Attachment 7. Validation Data for OVS Air Tube Method ARTF-AM-009

Summary Results for OVS Air Tubes Method Validation - Diazinon
Reference Multichrom files 767XAD2, 767XAD5, and 767XAD6

Sample ID	Data Set ID	Sample Description	Diazinon Fortification Level (ug/air tube)	Diazinon Recovery (ug/air tube)	% Recovery (Corrected for ug found in corresponding control)
43767-057	767XAD2	Control	NA	0.00096	
43767-058 (1)	767XAD2	Control + nominal 0.010 ug each	0.00992	0.0125	116%
43767-059 (1)	767XAD2	Control + nominal 0.010 ug each	0.00992	0.0138	129%
43767-060	767XAD2	Control + nominal 1.0 ug each	0.992	1.01	102%
43767-061	767XAD2	Control + nominal 1.0 ug each	0.992	0.994	100%
43767-062	767XAD2	Control + nominal 100 ug each	99.2	77.8	78.4%
43767-063	767XAD2	Control + nominal 100 ug each	99.2	101	102%
43767-074	767XAD5	Control	NA	Not Detected	
43767-075	767XAD5	Control + nominal 0.010 ug each	0.00992	0.0101	102%
43767-076	767XAD5	Control + nominal 0.010 ug each	0.00992	0.0103	104%
43767-077	767XAD5	Control + nominal 1.0 ug each	0.992	0.898	90.5%
43767-078	767XAD5	Control + nominal 1.0 ug each	0.992	1.01	102%
43767-079	767XAD5	Control + nominal 100 ug each	99.2	92.3	93.0%
43767-080	767XAD5	Control + nominal 100 ug each	99.2	92.9	93.6%
43767-088	767XAD6	Control	NA	Not Detected	
43767-089	767XAD6	Control + nominal 0.010 ug each	0.00992	0.00953	96.1%
43767-090	767XAD6	Control + nominal 0.010 ug each	0.00992	0.00944	95.2%

(1) Not included in statistical results.

Average % Recovery (n=12)	96.6%
Standard Deviation (n=12)	7.23%
Avg. + 2 Std. Dev.	111%
Avg. - 2 Std. Dev.	82.1%

Prepared by: 16Sep97

Checked by: 2-12-98

Summary Results for OVS Air Tubes Method Validation - Malathion
Reference Multichrom files 767XAD2, 767XAD5, and 767XAD6

Sample ID	Data Set ID	Sample Description	Malathion Fortification Level (ug/air tube)	Malathion Recovery (ug/air tube)	% Recovery (Corrected for ug found in corresponding control)
43767-057	767XAD2	Control	NA	Not Detected	
43767-058 (1)	767XAD2	Control + nominal 0.010 ug each	0.0102	0.0118	116%
43767-059 (1)	767XAD2	Control + nominal 0.010 ug each	0.0102	0.0135	132%
43767-060	767XAD2	Control + nominal 1.0 ug each	1.02	1.09	107%
43767-061	767XAD2	Control + nominal 1.0 ug each	1.02	1.05	103%
43767-062	767XAD2	Control + nominal 100 ug each	102	104	102%
43767-063	767XAD2	Control + nominal 100 ug each	102	105	103%
43767-074	767XAD5	Control	NA	Not Detected	
43767-075	767XAD5	Control + nominal 0.010 ug each	0.0102	0.0108	106%
43767-076	767XAD5	Control + nominal 0.010 ug each	0.0102	0.0104	102%
43767-077	767XAD5	Control + nominal 1.0 ug each	1.02	1.10	108%
43767-078	767XAD5	Control + nominal 1.0 ug each	1.02	1.13	111%
43767-079	767XAD5	Control + nominal 100 ug each	102	103	101%
43767-080	767XAD5	Control + nominal 100 ug each	102	102	100%
43767-088	767XAD6	Control	NA	Not Detected	
43767-089	767XAD6	Control + nominal 0.010 ug each	0.0102	0.0101	99.0%
43767-090	767XAD6	Control + nominal 0.010 ug each	0.0102	0.00952	93.3%

(1) Not included in statistical results.

Average % Recovery (n=12)	103%
Standard Deviation (n=12)	4.66%
Avg. + 2 Std. Dev.	112%
Avg. - 2 Std. Dev.	93.7%

Prepared by: 19 Jul 97

Checked by: 7-29-97

Observations and Remarks	
Test Material: Diazinon and Malathion Study Sponsor: ARTF Matrices: Various Study Number: 43767	Form AC72A (5/4/93) ABC Laboratories, Inc. 7200 E. ABC Lane Columbia, MO 65202
	Study Director: Loren C. Schrier

COMMENTS

Method and notes for OVS Air Sampling Tubes Method Validation
(This description based on documentation provided by Horizon Laboratories)

1) Fortify control OVS tubes using 10 uL syringes (Hewlett Packard P/N 5181-1267 or equivalent) just under the glass fiber filter on top of the 'front' resin layer. Allow 30 minutes for spiking solvent to evaporate. For validation purposes, do not pump air through the tube at 1.5 L/min as was performed during method development.

2) Carefully transfer the entire contents of the samples to ~~15~~ 50-mL culture tubes. For validation, the 'front' and 'back' sample components are not separated. ② Place ~~10~~ 30 mL of acetone into all the culture tubes. Rinse OVS tubes with 3 mL of acetone

3) Vortex the samples vigorously for approximately 15 seconds, and transfer the extracts to 125-mL flat-bottomed evaporation flasks. Repeat the extraction two more times with 10 mL of acetone, combining the extracts in the appropriate flasks. Rotary evaporate the flasks to dryness, and reconstitute the samples in the appropriate volume of 1.5% DEGDEE in acetone for GC/FPD analysis.

① F CYG 7-9-97 ② A CYG 7-9-97

Entered by: Loren C. Schrier Date: 8 July 97

Checked by: [signature] Date: 7-29-97

Approved by: [signature] Date: 12 Feb 98

SAMPLE TRACKING FORM

Customer Name: ARTF	Study Director: Loren C. Schrier	Test Material: Diazinon and Malathion	Matrix: OVS Tubes
ARTF Protocol: ARF003	ABC Study Number: 43767	OVS Tubes Method Validation Set 1	

	Tube Contents Separation and Extraction	Concentration and Reconstitution	Vial	GC/FPD Analysis	Chromatography review:
	CYG 7-9-97	CYG 7-9-97	CYG 7-9-97	CYG ② 7-9-97 Note - data reported from injections made on 16 Jul 97	CYG 7-10-97
					Spreadsheet entry by: 15 Jul 97

ABC Lab Number	Sample Identification	Extraction Volume	Final Volume and Dilutions	Fortified by: CYG 7-9-97 Witnessed by: Barbara J Bryant 09 Jul 1997
43767-057	Control	10 x 3	1.00 mL	
43767-058	Control + nominal 0.010 ug Each	10 x 3	1.00 mL	Fortify with 0.010 mL of 0.992 ug/mL diazinon and 1.02 ug/mL malathion mixed fortification solution (Fort-3)
43767-059	Control + nominal 0.010 ug Each	10 x 3	1.00 mL	Fortify with 0.010 mL of 0.992 ug/mL diazinon and 1.02 ug/mL malathion mixed fortification solution (Fort-3)
43767-060	Control + nominal 1.0 ug Each	10 x 3	15.0 mL	Fortify with 0.010 mL of 99.2 ug/mL diazinon and 102 ug/mL malathion mixed fortification solution (Fort-10)
43767-061	Control + nominal 1.0 ug Each	10 x 3	15.0 mL	Fortify with 0.010 mL of 99.2 ug/mL diazinon and 102 ug/mL malathion mixed fortification solution (Fort-10)
43767-062	Control + nominal 100 ug Each	10 x 3	25.0 mL, then 0.50 mL diluted to 25.5 mL	Fortify with 0.010 mL of 19216 at 9.92 mg/mL diazinon and 0.010 mL of 19217 at 10.2 mg/mL malathion
43767-063	Control + nominal 100 ug Each	10 x 3	25.0 mL, then 0.50 mL diluted to 25.5 mL	Fortify with 0.010 mL of 19216 at 9.92 mg/mL diazinon and 0.010 mL of 19217 at 10.2 mg/mL malathion

Remarks: ① E CYG 7-9-97 ② Entry made by Del A. Zook 28 Jan 99

Acetone: B&J, Lot # B0920 CYG 7-9-97

Checked by 2-12-98 Approved by 12 Feb 98

[43767] 29 767XAD2
Reported on 10-JUL-1997 at 15:59
Modified on 10-JUL-1997 at 09:11

CYG

Page 1

List Run Sequence File

ANALYST NAME..... CY Guo
43767 XAD Air Tubes Set 1

ANALYSIS INFORMATION

Analysis name..... 767XAD2
Method name..... 767XAD2
Calibration name..... 767XAD2
Calibration sequence..... Average Standard
User parameter 1 name..... Final Volume
User parameter 2 name..... Factor 1
User parameter 3 name..... Factor 2

SAMPLE SUMMARY

SAMPLE NUMBER	LIMS ID	SAMPLE NAME
1	----------	Solvent Blank
2	----------	GCMIX-1 NOMINAL 100 ng/mL
3	----------	GCMIX-2 NOMINAL 60 ng/mL
4	----------	43767-057
5	----------	43767-058 ①
6	----------	43767-059 ①
7	----------	GCMIX-3 NOMINAL 40 ng/mL
8	----------	43767-060
9	----------	43767-061
10	----------	GCMIX-4 NOMINAL 20 ng/mL
11	----------	43767-062
12	----------	43767-063
13	----------	GCMIX-5 NOMINAL 10 ng/mL
14	----------	GCMIX-6 NOMINAL 4 ng/mL

① Data not used. method modification required.
19 Jul 97

[43767] 29 767XAD2 Page 2
Reported on 10-JUL-1997 at 15:59
Modified on 10-JUL-1997 at 09:11

SAMPLE INFORMATION

SAMPLE NUMBER	TYPE	CALIB LEVEL	UPDATE RT	UPDATE RF	AMOUNT	NUM INJ	BOT NUM
1	Sa	--	-	-	1.00000	1	1
2	St	01	N	I	1.00000	1	2
3	St	02	N	I	1.00000	1	3
4	Sa	--	-	-	1.00000	1	4
5	Sa	--	-	-	1.00000	1	5
6	Sa	--	-	-	1.00000	1	6
7	St	03	N	I	1.00000	1	7
8	Sa	--	-	-	1.00000	1	8
9	Sa	--	-	-	1.00000	1	9
10	St	04	N	I	1.00000	1	10
11	Sa	--	-	-	1.00000	1	11
12	Sa	--	-	-	1.00000	1	12
13	St	05	N	I	1.00000	1	13
14	St	06	N	I	1.00000	1	14

USER PARAMETER VALUES

SAMPLE	FINAL VOLUME	FACTOR 1	FACTOR 2
1	1.00000	1.00000	1.00000
2	1.00000	1.00000	1.00000
3	1.00000	1.00000	1.00000
4	1.00000	1.00000	1.00000 ①
5	1.00000	1.00000	1000.00000
6	1.00000	1.00000	1000.00000
7	1.00000	1.00000	1.00000
8	15.00000	1.00000	1000.00000
9	15.00000	1.00000	1000.00000
10	1.00000	1.00000	1.00000
11	25.00000	25.50000	500.00000
12	25.00000	25.50000	500.00000
13	1.00000	1.00000	1.00000
14	1.00000	1.00000	1.00000

① Entry Error - Should be 1000. Corrected by [illegible] on 19 Jul 97.

[43767] 29 767XAD2 Page 3
Reported on 10-JUL-1997 at 15:59
Modified on 10-JUL-1997 at 09:11

INTERNAL/DILUTION STANDARDS

SAMPLE NUMBER	ISTD1 AMOUNT	ISTD2 AMOUNT	ISTD3 AMOUNT	DIL1 AMOUNT	DIL2 AMOUNT
1	1.00000	1.00000	1.00000	1.00000	1.00000
2	1.00000	1.00000	1.00000	1.00000	1.00000
3	1.00000	1.00000	1.00000	1.00000	1.00000
4	1.00000	1.00000	1.00000	1.00000	1.00000
5	1.00000	1.00000	1.00000	1.00000	1.00000
6	1.00000	1.00000	1.00000	1.00000	1.00000
7	1.00000	1.00000	1.00000	1.00000	1.00000
8	1.00000	1.00000	1.00000	1.00000	1.00000
9	1.00000	1.00000	1.00000	1.00000	1.00000
10	1.00000	1.00000	1.00000	1.00000	1.00000
11	1.00000	1.00000	1.00000	1.00000	1.00000
12	1.00000	1.00000	1.00000	1.00000	1.00000
13	1.00000	1.00000	1.00000	1.00000	1.00000
14	1.00000	1.00000	1.00000	1.00000	1.00000

PROCESSING ORDER

SAMPLE NUMBER	TYPE
2	Standard
3	Standard
7	Standard
10	Standard
13	Standard
14	Standard
1	Sample
4	Sample
5	Sample
6	Sample
8	Sample
9	Sample
11	Sample
12	Sample

Gas Chromatographic Instrument Parameters Form

ABC Laboratory Study Number: 43767
Customer Identification: ARTF

Instrument: HP 5890 Series II Material ID# 1652-0120
Autoinjector: HP 7673B Material ID# 1652-802A

Column: HP-5MS, 30 M X 0.25 mm, 0.25 μm film thickness
Serial#: 56253614

Detector Type: FPD/P

Electrometer: Range 4

Temperatures: Injector (°C): 230
Detector(°C): 230
Column:
Initial Temp. (°C): 95
Initial Time: 1.0 min.
Program Rate 1: 30 °C/min to 230 °C, hold 4 min
Program Rate 2: 40 °C/min to 290 °C, hold 4 min

Carrier Gas Flow Rate: He 1.6 mL/min
Septum Purge: He 2.0 mL/min
Make Up Gas: N_2 21 mL/min
Air Flow Rate: 98 mL/min
Hydrogen Flow Rate: 69 mL/min
Purge Valve: Off at 0 min, on at 0.75 min

Injection Volume: 2 μL

Quantitation Standard ID(s) # GCMIX-1, -2, -3, -4, -5, -6

Run Sequence File 767XAD2

Prepared by CY Guo Date: 7-10-97

Checked by XCG Date: 19Jul97

MCDO [43767] 29 767XAD2

ABC Laboratories, Inc.
Sample Information Report ver 3.3

Report Date: 19 JUL 97 at 14:39:04
Page 1

Sample Name	No.	Type	Level	User Parameter 1 Final Volume	User Parameter 2 Factor 1	User Parameter 3 Factor 2
Solvent Blank	1	SA		1.00000	1.00000	1.00000
GCMIX-1 NOMINAL 100 ng/mL	2	ST	01	1.00000	1.00000	1.00000
GCMIX-2 NOMINAL 60 ng/mL	3	ST	02	1.00000	1.00000	1.00000
43767-057	4	SA		1.00000	1.00000	1000.00000
43767-058	5	SA		1.00000	1.00000	1000.00000
43767-059	6	SA		1.00000	1.00000	1000.00000
GCMIX-3 NOMINAL 40 ng/mL	7	ST	03	1.00000	1.00000	1.00000
43767-060	8	SA		15.00000	1.00000	1000.00000
43767-061	9	SA		15.00000	1.00000	1000.00000
GCMIX-4 NOMINAL 20 ng/mL	10	ST	04	1.00000	1.00000	1.00000
43767-062	11	SA		25.00000	25.50000	500.00000
43767-063	12	SA		25.00000	25.50000	500.00000
GCMIX-5 NOMINAL 10 ng/mL	13	ST	05	1.00000	1.00000	1.00000
GCMIX-6 NOMINAL 4 ng/mL	14	ST	06	1.00000	1.00000	1.00000

MCDO [43767] 29 767XAD2

ABC Laboratories, Inc.
Results Information Report ver 3.3
Component Name: DIAZINON

Report Date: 19 JUL 97
Time: 14:39:04
Page: 1

Sample Name	SMP #	INJ #	RT(mins)	Height	ng/mL or ug	CAL. RANG	Peak Type	Bad INJ
Solvent Blank	1	1	0.00	0	0.00000	UNDR	O	---
GCMIX-1 NOMINAL 100 ng/mL	2	1	5.95	100925	100.10172		OB	---
GCMIX-2 NOMINAL 60 ng/mL	3	1	5.95	59581	58.92944		OB	---
43767-057	4	1	5.95	1367	0.00096	UNDR	OB	---
43767-058	5	1	5.96	12919	0.01246		OB	---
43767-059	6	1	5.95	14280	0.01382		O	---
GCMIX-3 NOMINAL 40 ng/mL	7	1	5.94	41371	40.79499		OB	---
43767-060	8	1	5.97	67959	1.00909		OB	---
43767-061	9	1	5.95	66945	0.99394		OB	---
GCMIX-4 NOMINAL 20 ng/mL	10	1	5.97	18672	18.19110		OB	---
43767-062	11	1	5.96	61709	77.83756		OB	---
43767-063	12	1	5.96	79936	100.97964		OB	---
GCMIX-5 NOMINAL 10 ng/mL	13	1	5.96	10543	10.09581		OB	---
GCMIX-6 NOMINAL 4 ng/mL	14	1	5.96	4593	4.17056		OB	---

(1) Data not used - method mod. fication required. FL 19 Sep 97

MCDO [43767] 29 767XAD2

ABC Laboratories, Inc.
Results Information Report ver 3.3
Component Name: MALATHION

Report Date: 19 JUL 97
Time: 14:39:04
Page: 1

Sample Name	SMP #	INJ #	RT(mins)	Height	ng/mL or ug	CAL. RANG	Peak Type	Bad INJ
Solvent Blank	1	1	0.00	0	0.00000	UNDR	O	---
GCMIX-1 NOMINAL 100 ng/mL	2	1	6.82	68295	103.67780		OB	---
GCMIX-2 NOMINAL 60 ng/mL	3	1	6.81	38939	59.06284		OB	---
43767-057	4	1	0.00	0	0.00000	UNDR	OF	---
43767-058	5	1	6.82	7859	0.01183		OBF	---
43767-059	6	1	6.81	8958	0.01350		OB	---
GCMIX-3 NOMINAL 40 ng/mL	7	1	6.80	28368	42.99615		OB	---
43767-060	8	1	6.83	47831	1.08864		OB	---
43767-061	9	1	6.81	46240	1.05238		OB	---
GCMIX-4 NOMINAL 20 ng/mL	10	1	6.83	12484	18.85458		OF	---
43767-062	11	1	6.82	53558	103.63291		OBF	---
43767-063	12	1	6.82	54008	104.50441		OB	---
GCMIX-5 NOMINAL 10 ng/mL	13	1	6.82	6722	10.09785		OBF	---
GCMIX-6 NOMINAL 4 ng/mL	14	1	6.82	2940	4.35018		O	---

(1) Data not used. Method modification required LL 19 JUL 97

Acquisition and Peak Processing Parameters Report Print Date and Time : 19 JUL 97 14:46:06
Page : 1

MCDO [43767] 29 767XAD2 Based on Sample Number : 1 Injection Number : 1

ACQUISITION PARAMETERS

Data Collection :

Length of Run..... 14.96 mins
Post Injection Delay..... 0.00 mins
Sampling Rate..... 15.00 Hz

PEAK PROCESSING PARAMETERS

Auto Process Parameters :

Peak Threshold..... 0.50
Baseline Test..... 4
Peak Trend..... 4

Separation Parameters :

Shoulder Sensitivity..... 0.10
Rider Sensitivity..... 0.05

Rejection Parameters :

Minimum Peak Width..... 0.00 secs
Minimum Peak Height..... 0.00 uV
Minimum Peak Area..... 2000.00 uVs
Ignore Flat Top Peak..... No

User Imposed Action Control :

Forced Baseline..... No
Suppress Integration..... Yes
Tangent Skimming..... No
Shoulder Detection..... No
Data Bunching..... No
Negative Detection..... No

Integration Modes :

Retention Time Integration..... No
Square Root Area and Height..... Yes

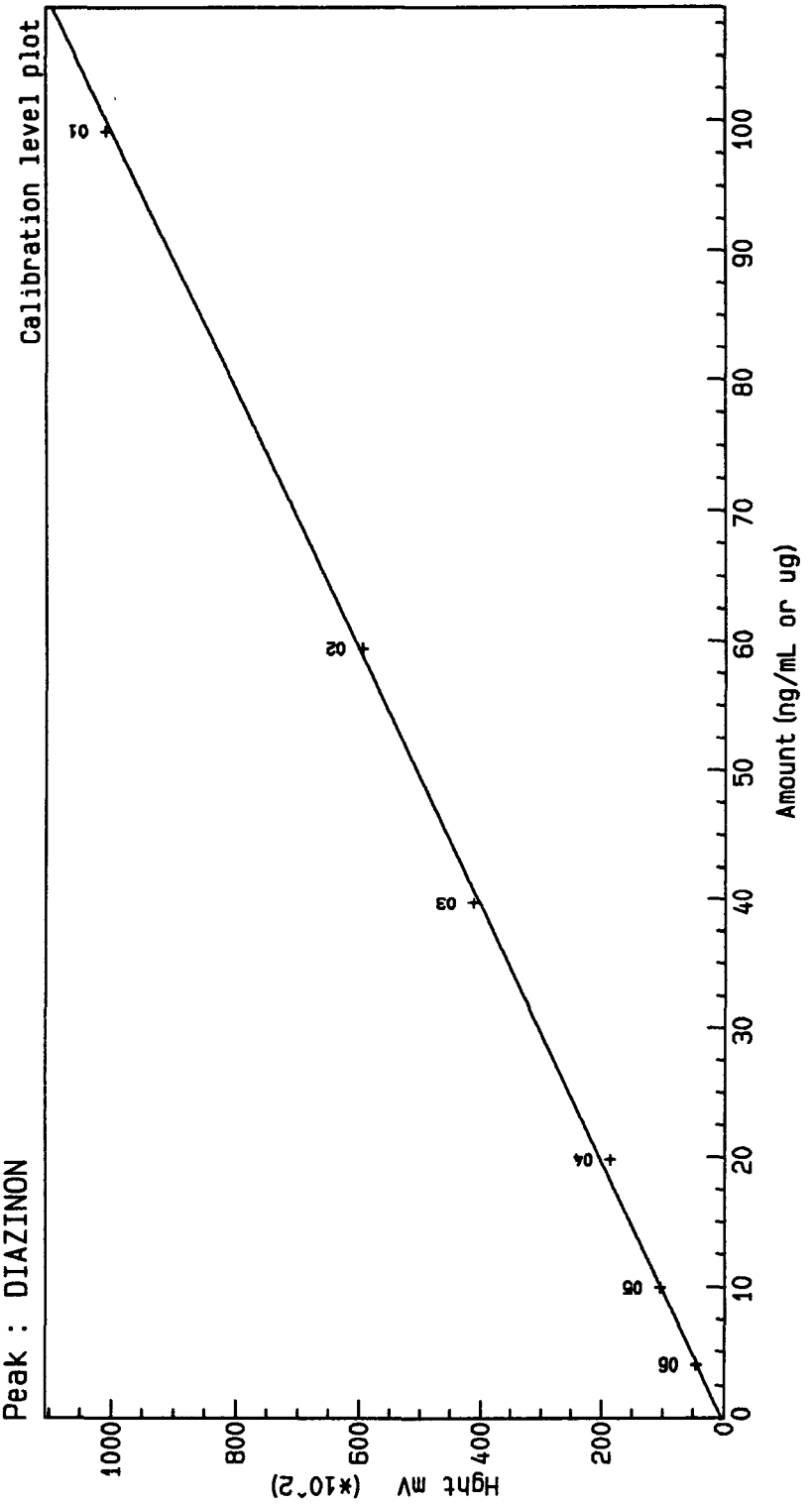
PROCESSING ACTIONS

Time (mins)	Force Baseline	Integrate Suppress	Tangent Skim	Bunch Size	Shoulder Detect	Negative Detect
0.00	--	SS	_	0	--	--
5.30	--	ES	_	0	--	--
7.50	--	SI	_	0	--	--

These parameters apply to all injections of set 767XAD2 with no exceptions

ABC Laboratories, Inc. Multichrom ver 1.8-2

Calibration Name : 29 767XAD2.
43767 XAD Air Tubes Set 1
Peak : DIAZINON



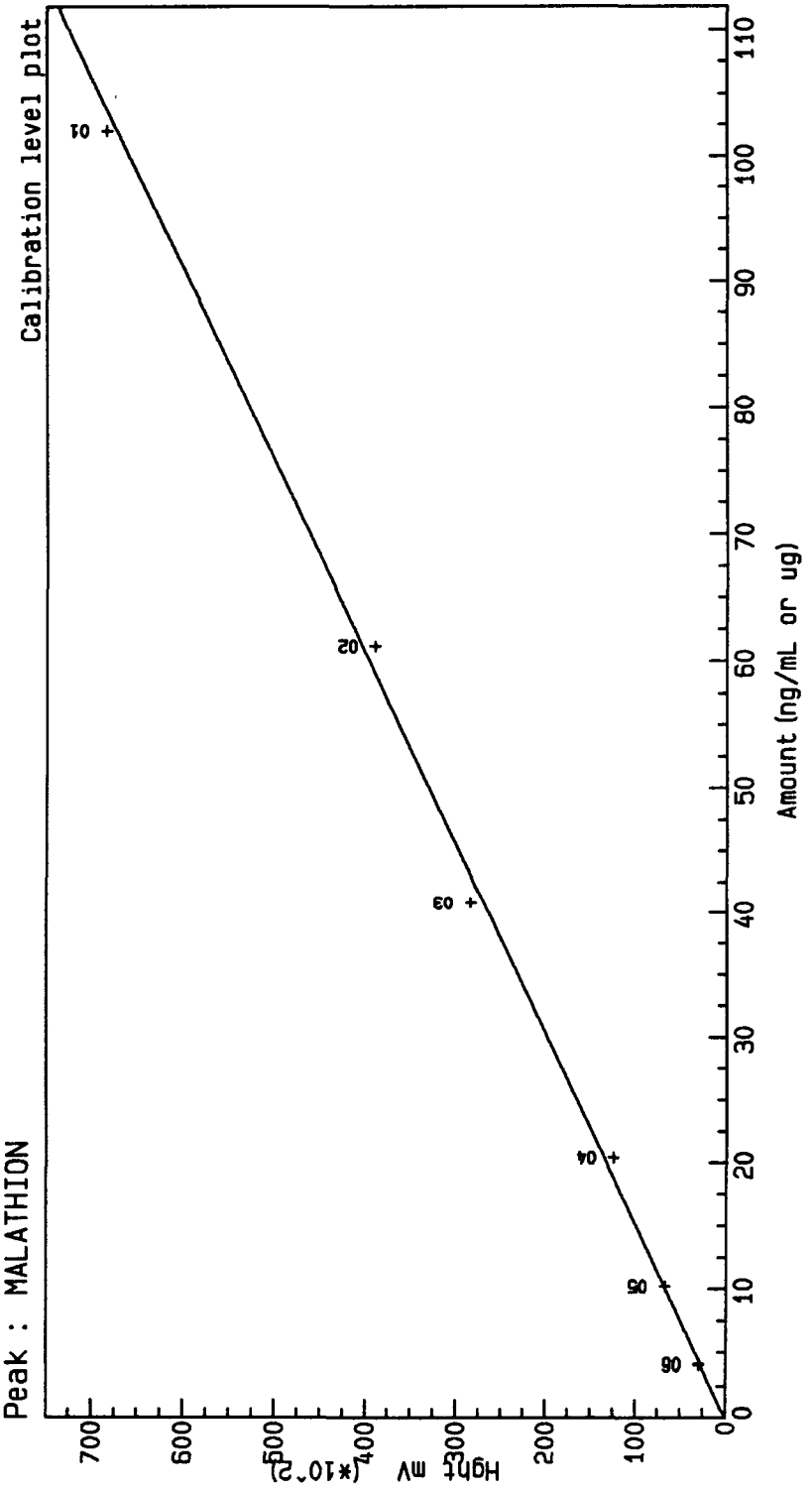
Constant : 4.05291E+2
1st degree : 1.00417E+3

Curve fit : Linear
Correlation coefficient : 0.99962
Standard error : 1.12240E+3

Reported on 19-JUL-1997 at 14:46

ABC Laboratories, Inc. Multichrom ver 1.8-2

Calibration Name : 29 767XAD2.
43767 XAD Air Tubes Set 1
Peak : MALATHION



Constant : 7.78953E+1
1st degree : 6.57970E+2

Curve fit : Linear
Correlation coefficient : 0.99896
Standard error : 1.26037E+3

Reported on 19-JUL-1997 at 14:46

ABC Laboratories, Inc.

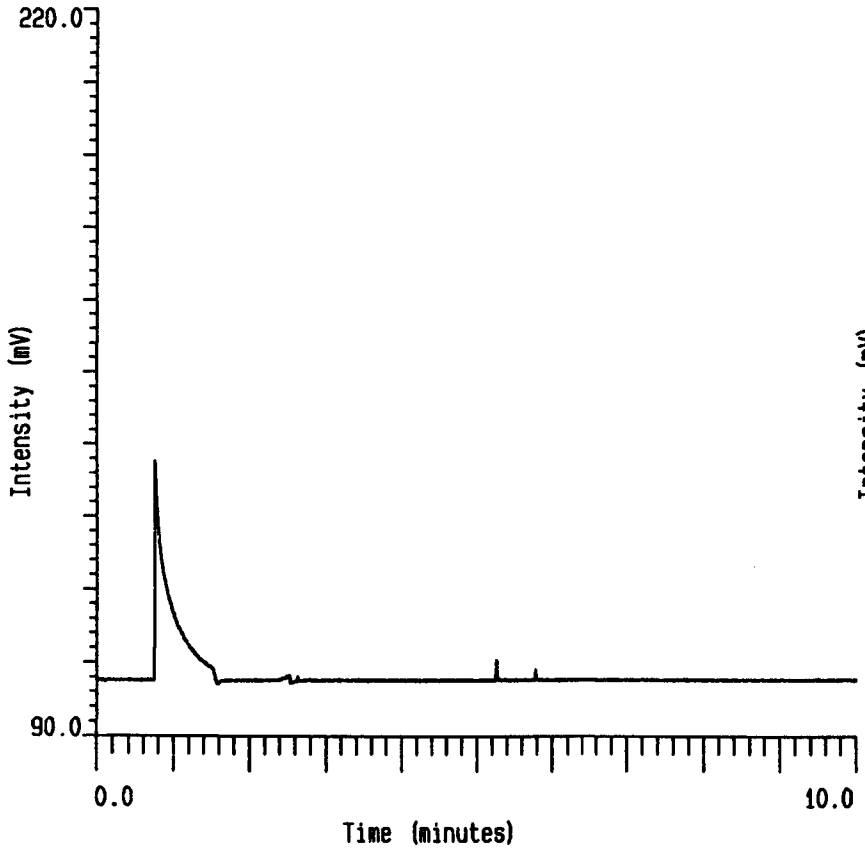
MCPP ver 2.3

43767 XAD Air Tubes Set 1

Date of Report: 19 JUL 97 at 14:47:37

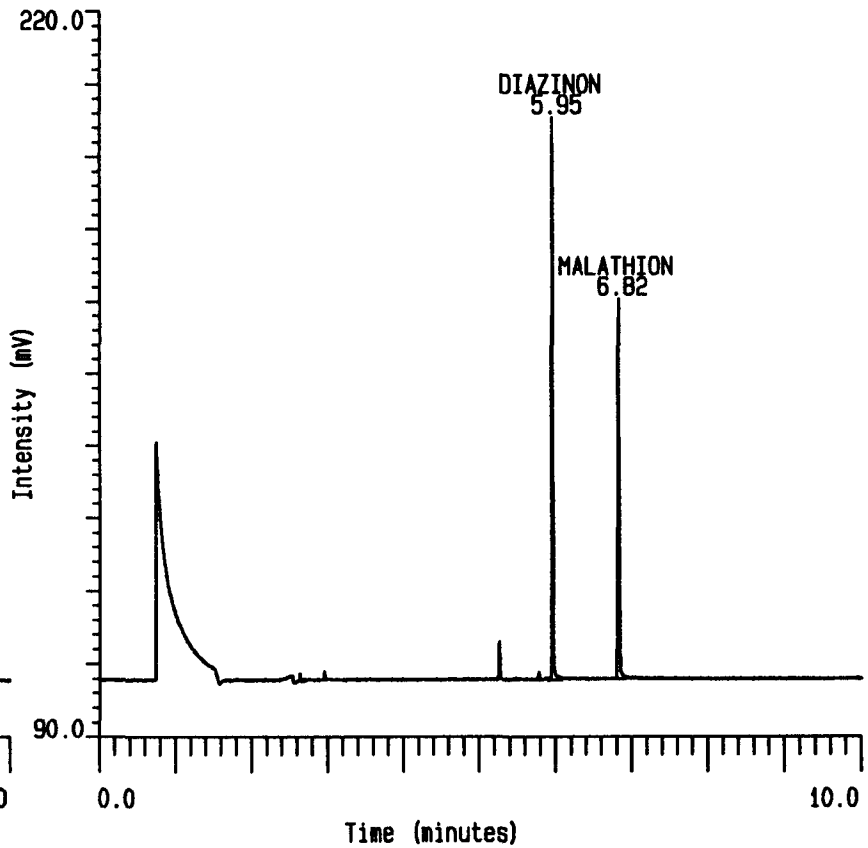
MCDO [43767] 29 767XAD2, 1, 1
Solvent Blank
Acquired on 10-Jul-1997 at 10:03

Peak Name	RT (mins)	Height	ng/mL or ug
DIAZINON	0.00	0	0
MALATHION	0.00	0	0



MCDO [43767] 29 767XAD2, 2, 1
GCMIX-1 NOMINAL 100 ng/mL
Acquired on 10-Jul-1997 at 10:24

Peak Name	RT (mins)	Height	ng/mL or ug
DIAZINON	5.95	100925	100.10172
MALATHION	6.82	68295	103.67780



ABC Laboratories, Inc.

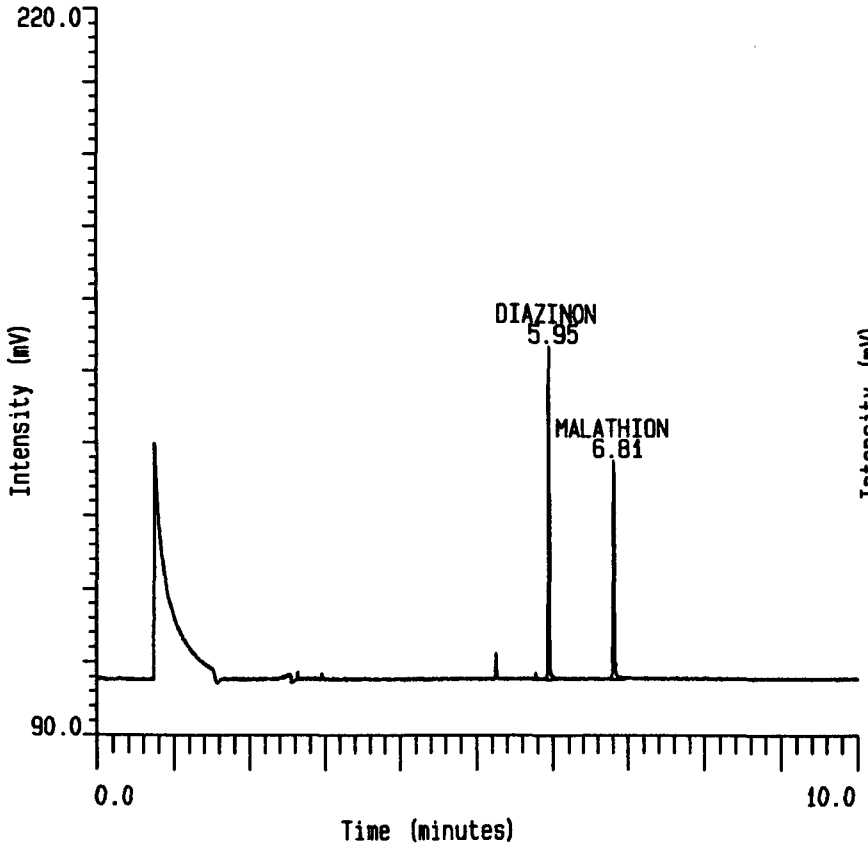
MCPP ver 2.3

43767 XAD Air Tubes Set 1

Date of Report: 19 JUL 97 at 14:47:37

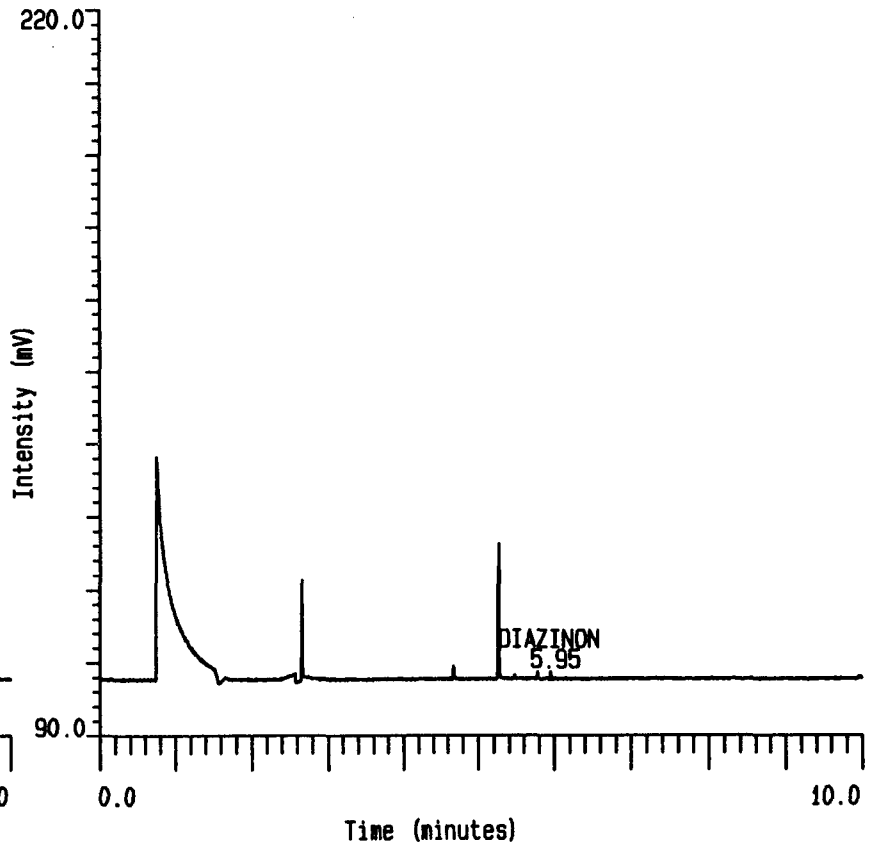
MCDO [43767] 29 767XAD2, 3, 1
GCMIX-2 NOMINAL 60 ng/mL
Acquired on 10-Jul-1997 at 10:44

Peak Name	RT (mins)	Height	ng/mL or ug
DIAZINON	5.95	59581	58.92944
MALATHION	6.81	38939	59.06284



MCDO [43767] 29 767XAD2, 4, 1
43767-057
Acquired on 10-Jul-1997 at 11:04

Peak Name	RT (mins)	Height	ng/mL or ug
DIAZINON	5.95	1367	0.00096
MALATHION	0.00	0	0



ABC Laboratories, Inc.

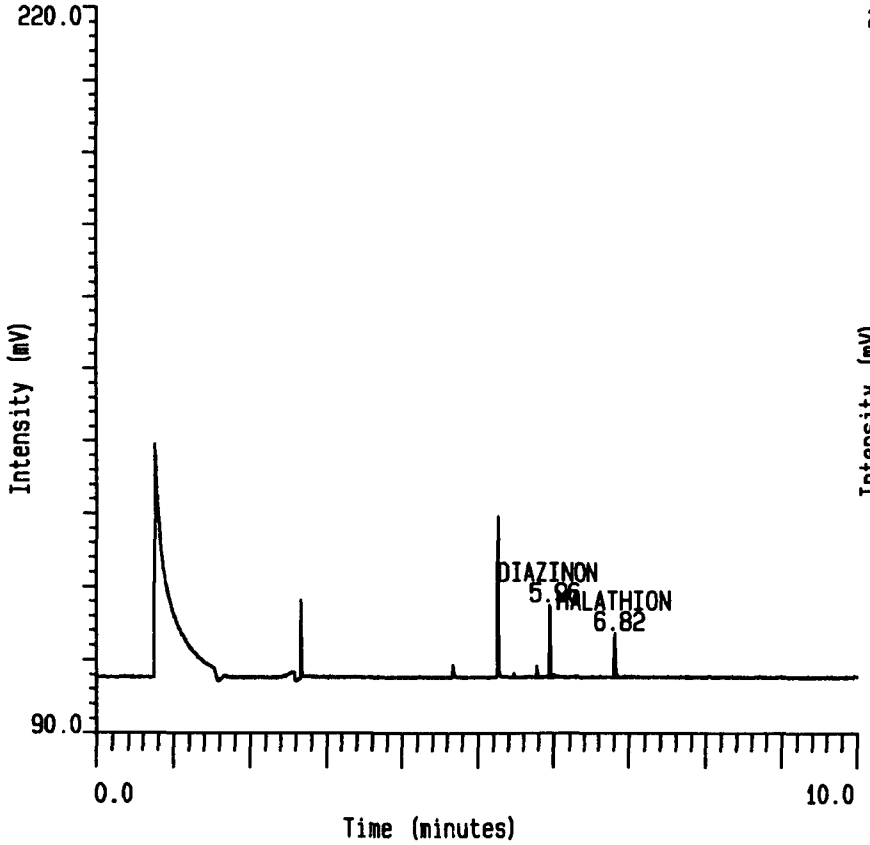
MCPP ver 2.3

43767 XAD Air Tubes Set 1

Date of Report: 19 JUL 97 at 14:47:37

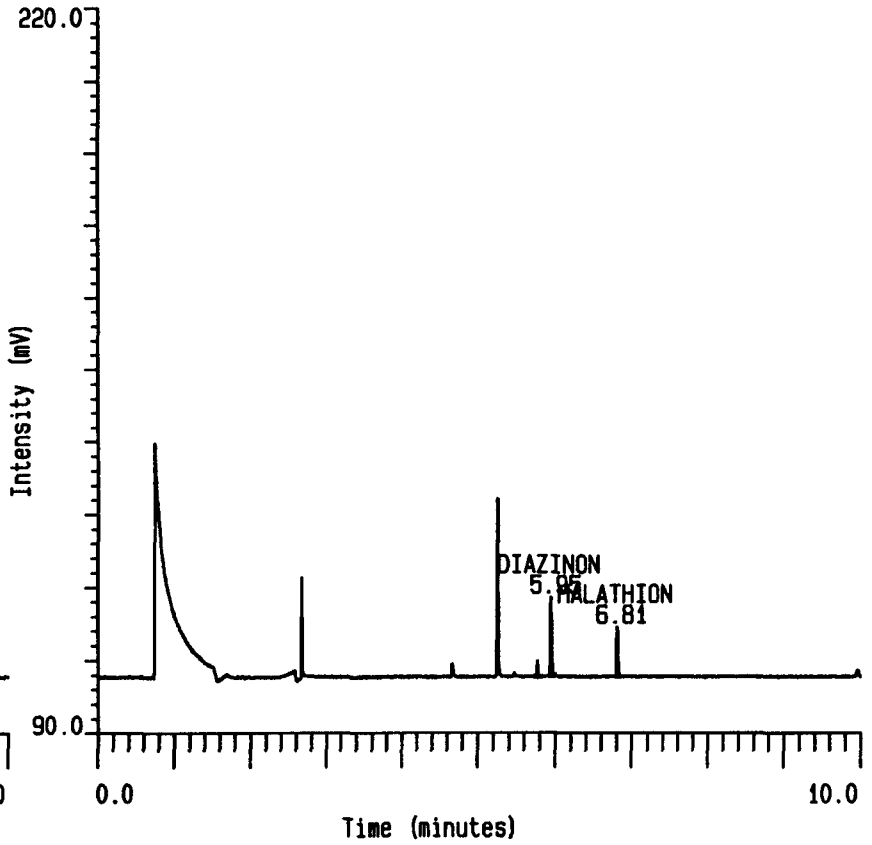
MCDO [43767] 29 767XAD2,5,1
43767-058
Acquired on 10-Jul-1997 at 11:25

Peak Name	RT (mins)	Height	ng/mL or ug
DIAZINON	5.96	12919	0.01246
MALATHION	6.82	7859	0.01183



MCDO [43767] 29 767XAD2,6,1
43767-059
Acquired on 10-Jul-1997 at 11:45

Peak Name	RT (mins)	Height	ng/mL or ug
DIAZINON	5.95	14280	0.01382
MALATHION	6.81	8958	0.01350



ABC Laboratories, Inc.

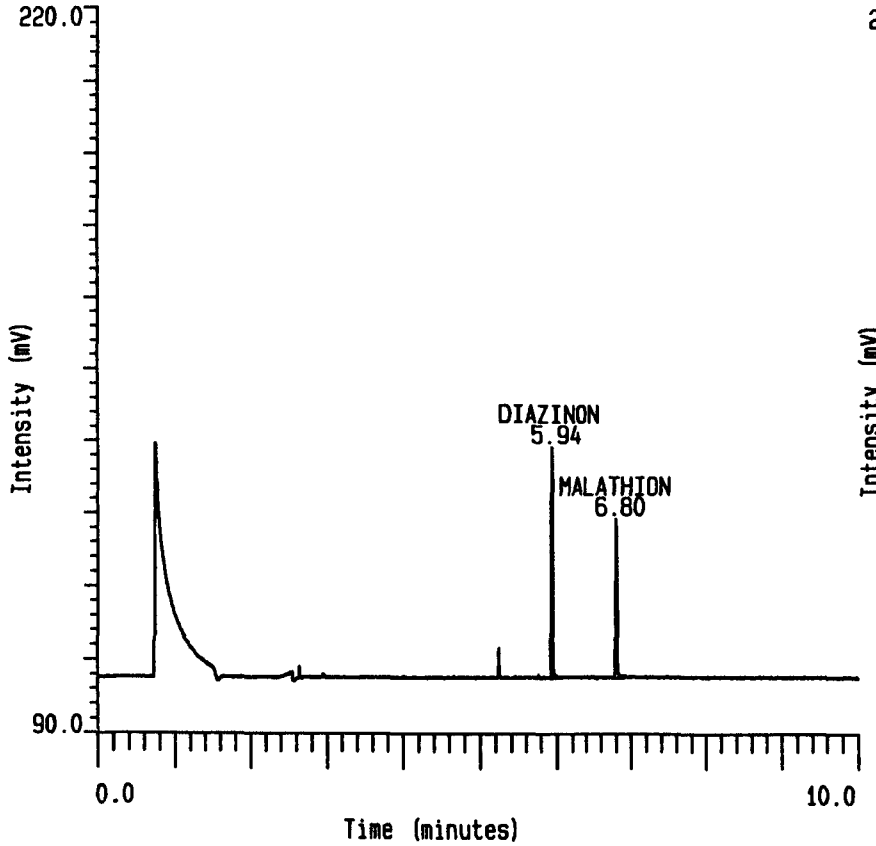
MCPP ver 2.3

43767 XAD Air Tubes Set 1

Date of Report: 19 JUL 97 at 14:47:37

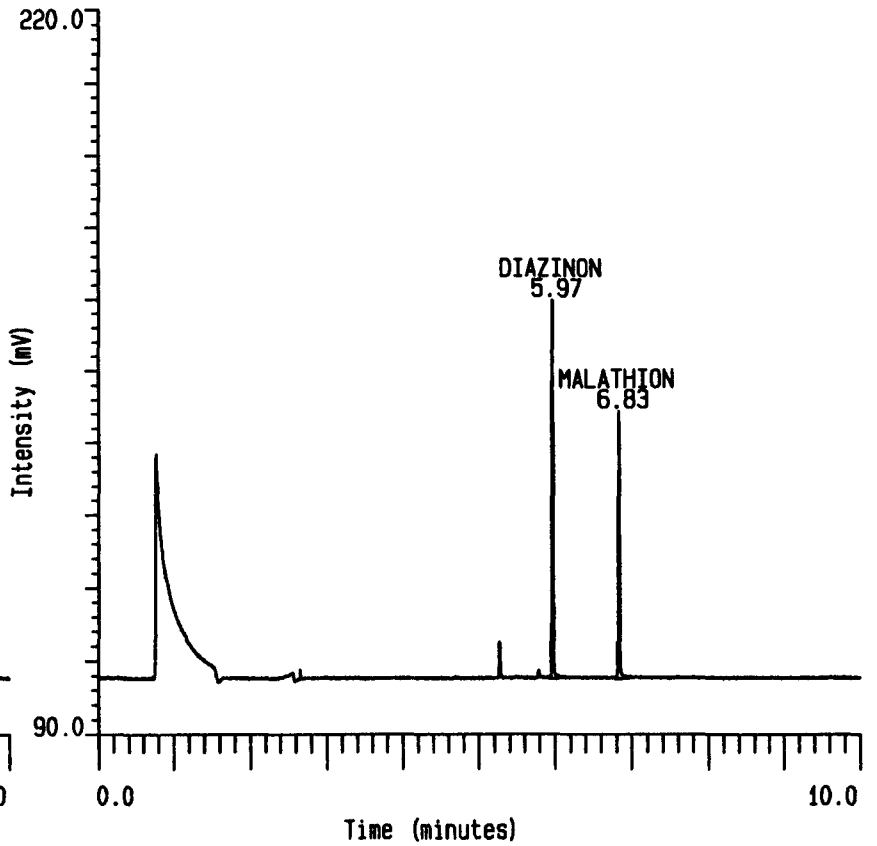
MCDO [43767] 29 767XAD2,7,1
GCMIX-3 NOMINAL 40 ng/mL
Acquired on 10-Jul-1997 at 12:05

Peak Name	RT (mins)	Height	ng/mL or ug
DIAZINON	5.94	41371	40.79499
MALATHION	6.80	28368	42.99615



MCDO [43767] 29 767XAD2,8,1
43767-060
Acquired on 10-Jul-1997 at 12:26

Peak Name	RT (mins)	Height	ng/mL or ug
DIAZINON	5.97	67959	1.00909
MALATHION	6.83	47831	1.08864



ABC Laboratories, Inc.

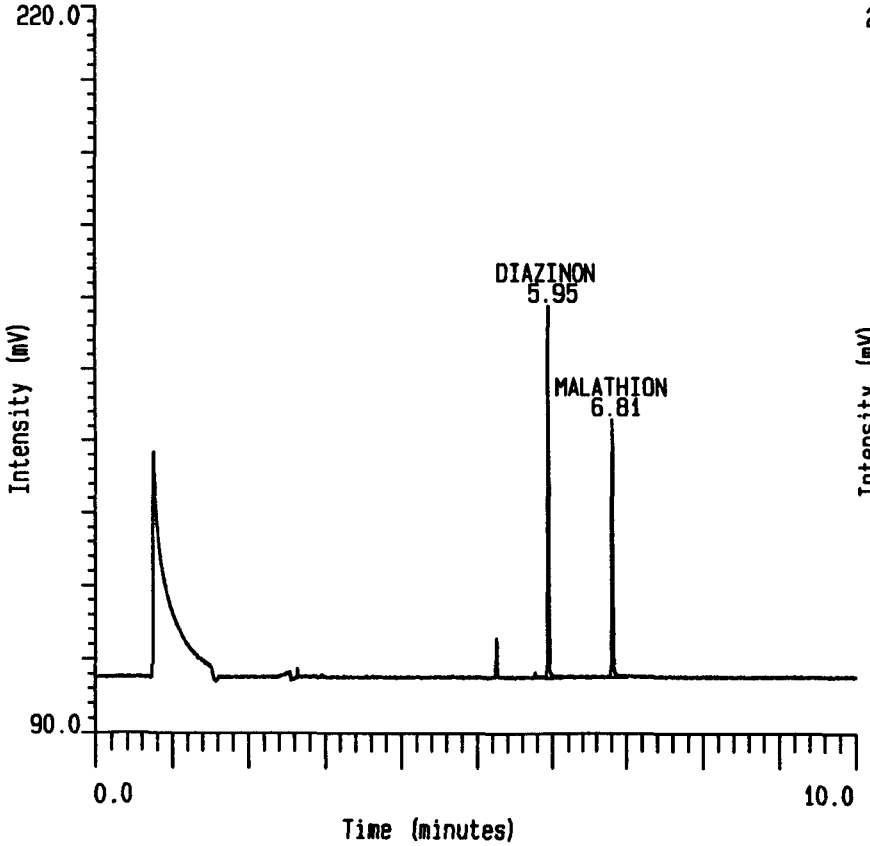
MCPP ver 2.3

43767 XAD Air Tubes Set 1

Date of Report: 19 JUL 97 at 14:47:37

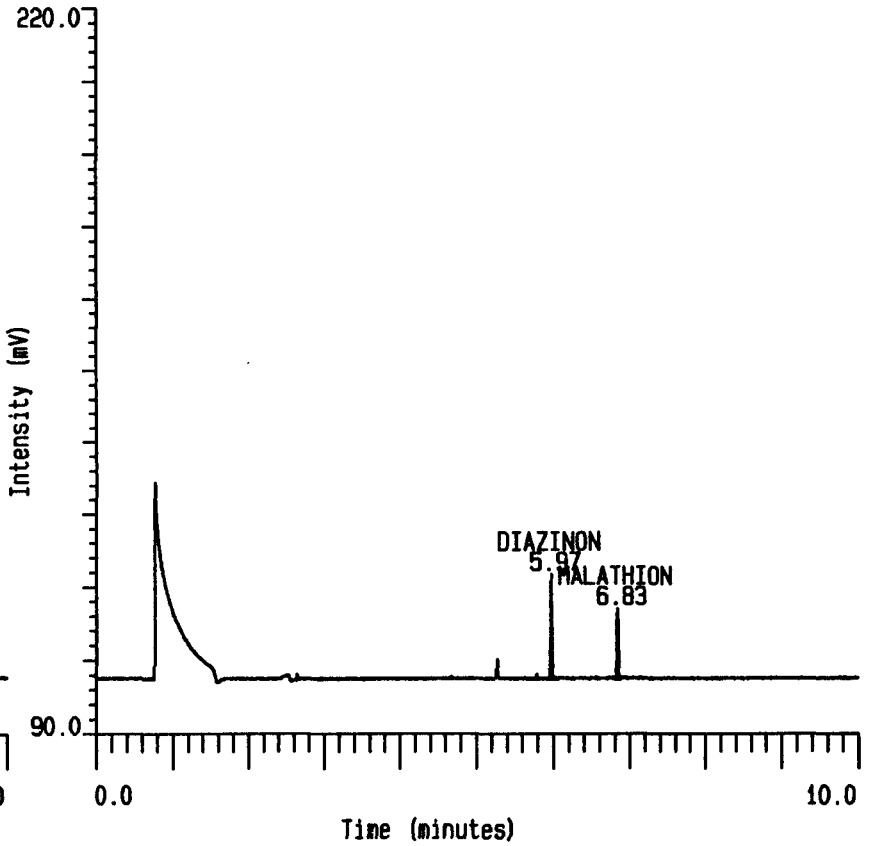
MCDO [43767] 29 767XAD2,9,1
43767-061
Acquired on 10-Jul-1997 at 12:46

Peak Name	RT (mins)	Height	ng/mL or ug
DIAZINON	5.95	66945	0.99394
MALATHION	6.81	46240	1.05238



MCDO [43767] 29 767XAD2,10,1
GCMIX-4 NOMINAL 20 ng/mL
Acquired on 10-Jul-1997 at 13:06

Peak Name	RT (mins)	Height	ng/mL or ug
DIAZINON	5.97	18672	18.19110
MALATHION	6.83	12484	18.85458



ABC Laboratories, Inc.

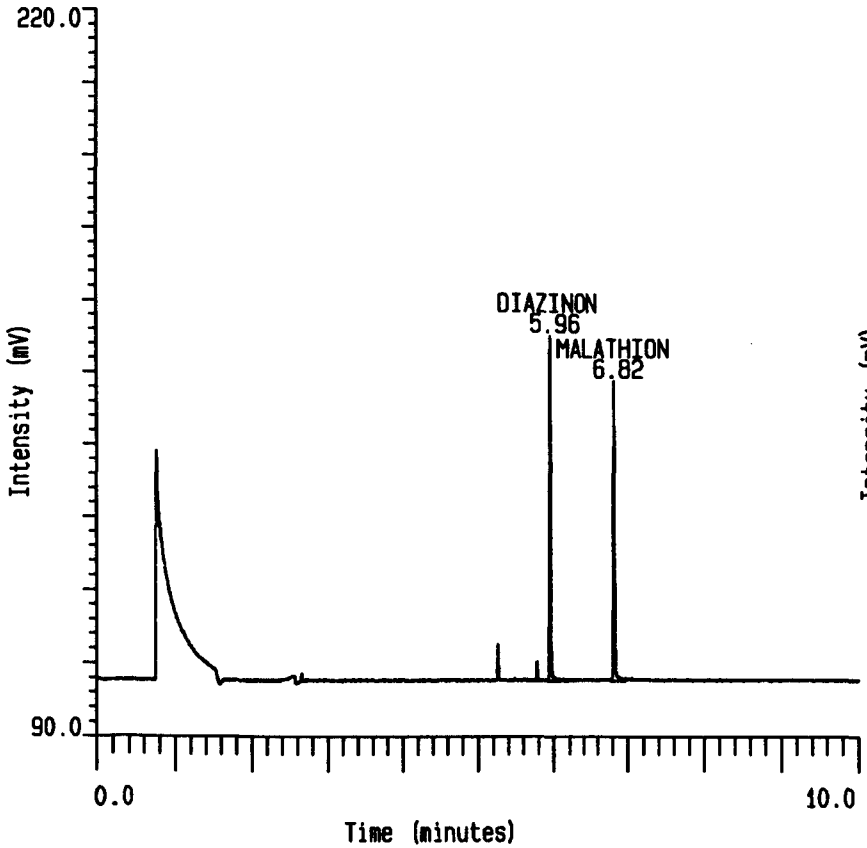
MCPP ver 2.3

43767 XAD Air Tubes Set 1

Date of Report: 19 JUL 97 at 14:47:37

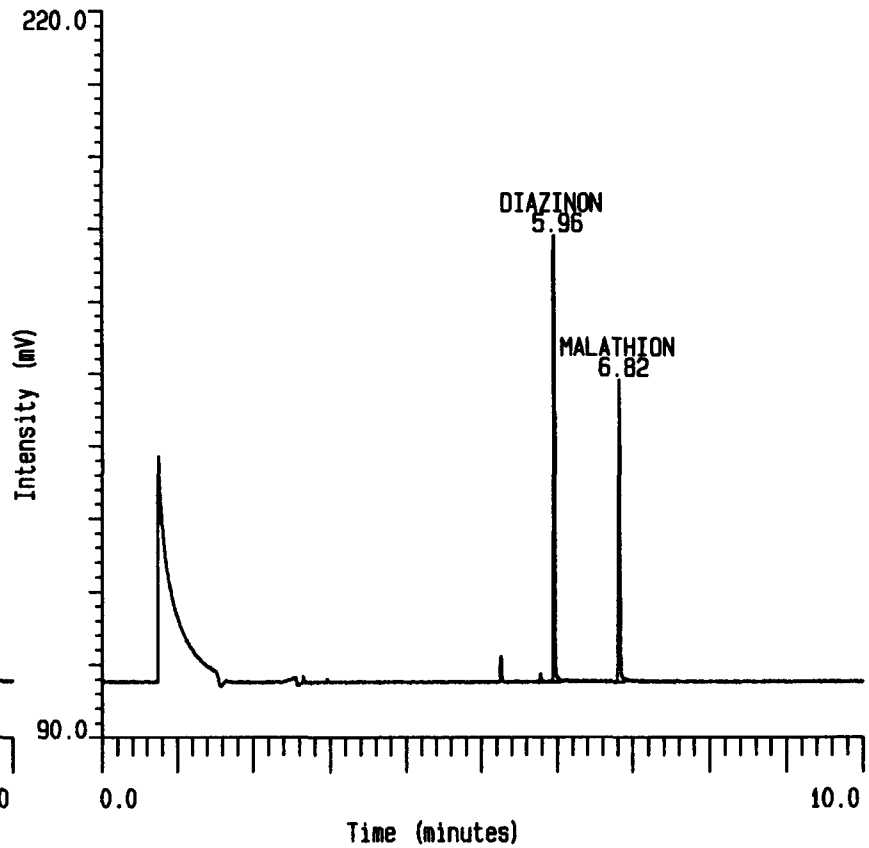
MCDO [43767] 29 767XAD2, 11, 1
43767-062
Acquired on 10-Jul-1997 at 13:27

Peak Name	RT (mins)	Height	ng/mL or ug
DIAZINON	5.96	61709	77.83756
MALATHION	6.82	53558	103.63291



MCDO [43767] 29 767XAD2, 12, 1
43767-063
Acquired on 10-Jul-1997 at 13:47

Peak Name	RT (mins)	Height	ng/mL or ug
DIAZINON	5.96	79936	100.97964
MALATHION	6.82	54008	104.50441



ABC Laboratories, Inc.

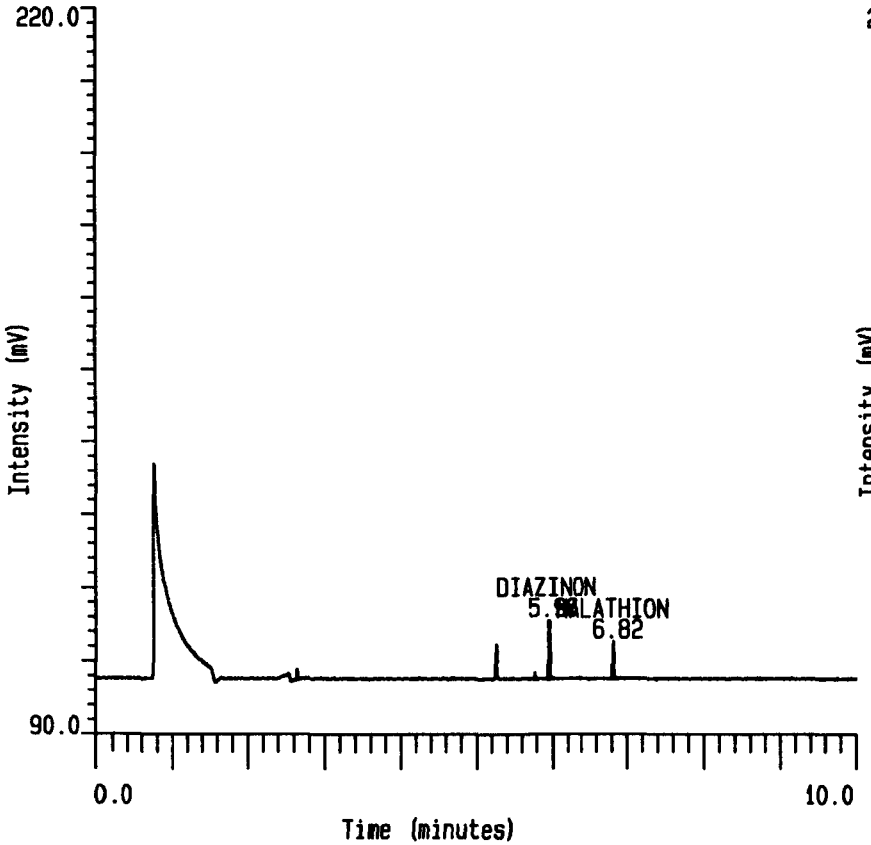
MCPP ver 2.3

43767 XAD Air Tubes Set 1

Date of Report: 19 JUL 97 at 14:47:37

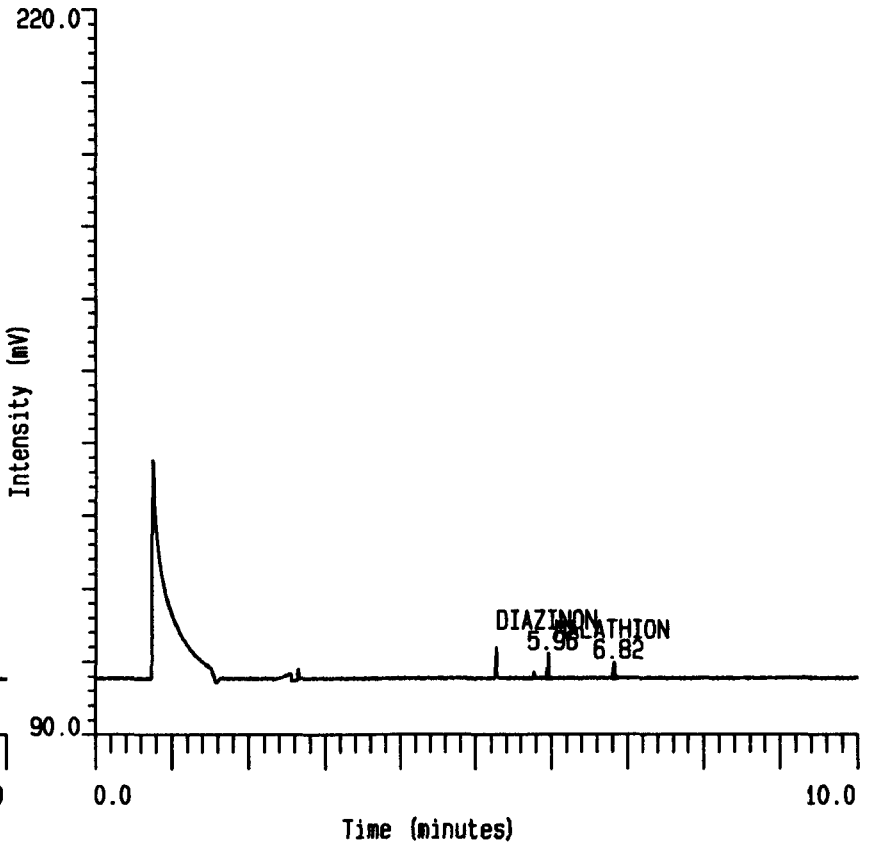
MCDO [43767] 29 767XAD2, 13, 1
GCMIX-5 NOMINAL 10 ng/mL
Acquired on 10-Jul-1997 at 14:07

Peak Name	RT (mins)	Height	ng/mL or ug
DIAZINON	5.96	10543	10.09581
MALATHION	6.82	6722	10.09785



MCDO [43767] 29 767XAD2, 14, 1
GCMIX-6 NOMINAL 4 ng/mL
Acquired on 10-Jul-1997 at 14:28

Peak Name	RT (mins)	Height	ng/mL or ug
DIAZINON	5.96	4593	4.17056
MALATHION	6.82	2940	4.35018



[43767] 29 767XAD2 Page 1
Reported on 21-JUL-1997 at 08:06
Modified on 19-JUL-1997 at 14:35

List Calibration File

CALIBRATION HEADER INFORMATION

Calibration Title : 43767 XAD Air Tubes Set 1
General :
Calibration type..... External standard
Units..... ng/mL or ug
Calibration base..... Height
Reference Peak Identification :
Reference window..... 5.0 %
Minimum window..... 0.50 mins
Peak threshold..... 0.0 %
Uncalibrated Peaks Response Factor :
Response factor source..... User set response factor
Response factor..... 0.0000
Additional Information :
Source library..... None
Initialise on 1st standard..... No
Variation tolerance..... 100.00 %
Calibrant Peak Identification :
Calibrant window..... 0.10 mins
Calibrant threshold..... 0.0 %
Response Factor Calibration Curve :
Curve fit..... Linear
Force through zero..... No
X transformation..... None
Y transformation..... None
Weighting..... 1 / Y
Retention Value Calibration Curve :
Curve fit..... Linear
Force through zero..... No
X transformation..... None
Y transformation..... None
Weighting..... None
Timed Calibration Curve :
Curve fit..... Linear
Force through zero..... No
X transformation..... None
Y transformation..... None
Weighting..... None
No group information entered.

[43767] 29 767XAD2 Page 2
Reported on 21-JUL-1997 at 08:06
Modified on 19-JUL-1997 at 14:35

Peak name : DIAZINON
Expected retention time : 5.97 mins (RT range : 5.92 - 6.02 mins)
Peak window mode..... Global
Group name identifier..... ----
Peak identification mode..... Largest
Must peak..... No
Reference peak..... No
Dilution peak..... No
Retention standard..... No
Response factor mode..... Internal Levels
Purity..... 100.0000

Calibration level	Standard amount	Response factor	Calibration count
06	3.9700	1156.9927	1
05	9.9200	1062.8276	1
04	19.8000	943.0475	1
03	39.7000	1042.0804	1
02	59.5000	1001.3573	1
01	99.2000	1017.3884	1

Peak name : MALATHION
Expected retention time : 6.83 mins (RT range : 6.78 - 6.88 mins)
Peak window mode..... Global
Group name identifier..... ----
Peak identification mode..... Largest
Must peak..... No
Reference peak..... No
Dilution peak..... No
Retention standard..... No
Response factor mode..... Internal Levels
Purity..... 100.0000

Calibration level	Standard amount	Response factor	Calibration count
06	4.0800	720.6337	1
05	10.2000	659.0178	1
04	20.4000	611.9436	1
03	40.8000	695.2963	1
02	61.2000	636.2662	1
01	102.0000	669.5569	1

SAMPLE TRACKING FORM

Customer Name: ARTF	Study Director: Loren C. Schrier	Test Material: Diazinon and Malathion	Matrix: OVS Tubes
ARTF Protocol: ARF003	ABC Study Number: 43767	OVS Tubes Method Validation Set 2	

	Tube Contents Separation and Extraction	Concentration and Reconstitution	Vial	GC/FPD Analysis	Chromatography review: 19 Jul 97
	CYG 7-16 97	CYG 7-16-97	CYG 7-17-97	18 Jul 97 (2) ~~16 Jul~~ 27 ~~Jul~~ ADS	Spreadsheet entry by: 19 Jul 97

ABC Lab Number	Sample Identification	Extraction Volume	Final Volume and Dilutions (1)	Fortified by: CYG 7-16-97 Witnessed by: 16 July 97
43767-074	Control	10 x 3	1.00 mL	
43767-075	Control + nominal 0.010 ug Each	10 x 3	1.00 mL	Fortify with 0.010 mL of 0.992 ug/mL diazinon and 1.02 ug/mL malathion mixed fortification solution (Fort-3)
43767-076	Control + nominal 0.010 ug Each	10 x 3	1.00 mL	Fortify with 0.010 mL of 0.992 ug/mL diazinon and 1.02 ug/mL malathion mixed fortification solution (Fort-3)
43767-077	Control + nominal 1.0 ug Each	10 x 3	15.0 mL	Fortify with 0.010 mL of 99.2 ug/mL diazinon and 102 ug/mL malathion mixed fortification solution (Fort-11)
43767-078	Control + nominal 1.0 ug Each	10 x 3	15.0 mL	Fortify with 0.010 mL of 99.2 ug/mL diazinon and 102 ug/mL malathion mixed fortification solution (Fort-11)
43767-079	Control + nominal 100 ug Each	10 x 3	25.0 mL, then 0.50 mL diluted to 25.5 mL	Fortify with 0.010 mL of 19216 at 9.92 mg/mL diazinon and 0.010 mL of 19217 at 10.2 mg/mL malathion
43767-080	Control + nominal 100 ug Each	10 x 3	25.0 mL, then 0.50 mL diluted to 25.5 mL	Fortify with 0.010 mL of 19216 at 9.92 mg/mL diazinon and 0.010 mL of 19217 at 10.2 mg/mL malathion

Remarks: (1) The flask was placed in ice-water bath before 1% DEG/PEG in acetone was added CYG 7-16-97

Acetone: B&J. Lot# B0369 CYG 7-16-97

(2) Entry Error - illegible. 18 Jul 97

Checked by 2-12-98 Approved by 12 Feb 98

[43767] 29 767XAD5 Page 1
Reported on 19-JUL-1997 at 12:39
Modified on 17-JUL-1997 at 13:42

List Run Sequence File

ANALYST NAME..... LOREN C. SCHRIER
43767 XAD Air Tubes Set 2

ANALYSIS INFORMATION

Analysis name..... 767XAD5
Method name..... 767XAD5
Calibration name..... 767XAD5
Calibration sequence..... Average Standard
User parameter 1 name..... Final Volume
User parameter 2 name..... Factor 1
User parameter 3 name..... Factor 2

SAMPLE SUMMARY

SAMPLE NUMBER	LIMS ID	SAMPLE NAME
1	----------	Solvent Blank
2	----------	GCMIX-1 NOMINAL 100 ng/mL
3	----------	GCMIX-2 NOMINAL 60 ng/mL
4	----------	43767-074
5	----------	43767-075
6	----------	43767-076
7	----------	GCMIX-3 NOMINAL 40 ng/mL
8	----------	43767-077
9	----------	43767-078
10	----------	GCMIX-4 NOMINAL 20 ng/mL
11	----------	43767-079
12	----------	43767-080
13	----------	GCMIX-5 NOMINAL 10 ng/mL
14	----------	GCMIX-6 NOMINAL 4 ng/mL

[43767] 29 767XAD5 Page 2
Reported on 19-JUL-1997 at 12:39
Modified on 17-JUL-1997 at 13:42

SAMPLE INFORMATION

SAMPLE NUMBER	TYPE	CALIB LEVEL	UPDATE RT	UPDATE RF	AMOUNT	NUM INJ	BOT NUM
1	Sa	--	-	-	1.00000	1	1
2	St	01	N	I	1.00000	1	2
3	St	02	N	I	1.00000	1	3
4	Sa	--	-	-	1.00000	1	4
5	Sa	--	-	-	1.00000	1	5
6	Sa	--	-	-	1.00000	1	6
7	St	03	N	I	1.00000	1	7
8	Sa	--	-	-	1.00000	1	8
9	Sa	--	-	-	1.00000	1	9
10	St	04	N	I	1.00000	1	10
11	Sa	--	-	-	1.00000	1	11
12	Sa	--	-	-	1.00000	1	12
13	St	05	N	I	1.00000	1	13
14	St	06	N	I	1.00000	1	14

USER PARAMETER VALUES

SAMPLE	FINAL VOLUME	FACTOR 1	FACTOR 2
1	1.00000	1.00000	1.00000
2	1.00000	1.00000	1.00000
3	1.00000	1.00000	1.00000
4	1.00000	1.00000	1.00000
5	1.00000	1.00000	1000.00000
6	1.00000	1.00000	1000.00000
7	1.00000	1.00000	1.00000
8	15.00000	1.00000	1000.00000
9	15.00000	1.00000	1000.00000
10	1.00000	1.00000	1.00000
11	25.00000	25.50000	500.00000
12	25.00000	25.50000	500.00000
13	1.00000	1.00000	1.00000
14	1.00000	1.00000	1.00000

[43767] 29 767XAD5 Page 3
Reported on 19-JUL-1997 at 12:39
Modified on 17-JUL-1997 at 13:42

INTERNAL/DILUTION STANDARDS

SAMPLE NUMBER	ISTD1 AMOUNT	ISTD2 AMOUNT	ISTD3 AMOUNT	DIL1 AMOUNT	DIL2 AMOUNT
1	1.00000	1.00000	1.00000	1.00000	1.00000
2	1.00000	1.00000	1.00000	1.00000	1.00000
3	1.00000	1.00000	1.00000	1.00000	1.00000
4	1.00000	1.00000	1.00000	1.00000	1.00000
5	1.00000	1.00000	1.00000	1.00000	1.00000
6	1.00000	1.00000	1.00000	1.00000	1.00000
7	1.00000	1.00000	1.00000	1.00000	1.00000
8	1.00000	1.00000	1.00000	1.00000	1.00000
9	1.00000	1.00000	1.00000	1.00000	1.00000
10	1.00000	1.00000	1.00000	1.00000	1.00000
11	1.00000	1.00000	1.00000	1.00000	1.00000
12	1.00000	1.00000	1.00000	1.00000	1.00000
13	1.00000	1.00000	1.00000	1.00000	1.00000
14	1.00000	1.00000	1.00000	1.00000	1.00000

PROCESSING ORDER

SAMPLE NUMBER	TYPE
2	Standard
3	Standard
7	Standard
10	Standard
13	Standard
14	Standard
1	Sample
4	Sample
5	Sample
6	Sample
8	Sample
9	Sample
11	Sample
12	Sample

Gas Chromatographic Instrument Parameters Form

ABC Laboratory Study Number: 43767
Customer Identification: ARTF

Instrument: HP 5890 Series II Material ID# 1652-0120
Autoinjector: HP 7673B Material ID# 1625-802A

Column: HP-5MS, 30 M X 0.25 mm, 0.25 μm film thickness
Serial#: 56253614

Detector Type: FPD/P

Electrometer: Range 4

Temperatures:
- Injector (°C): 230
- Detector (°C): 230
- Column:
  - Initial Temp.(°C): 95
  - Initial Time: 1.0 min.
  - Program Rate 1: 30 °C/min to 230 °C, hold 4 min
  - Program Rate 2: 40 °C/min to 290 °C, hold 4 min

Carrier Gas Flow Rate:	He	1.6 mL/min
Septum Purge:	He	2.0 mL/min
Make Up Gas:	He	21 mL/min
Air Flow Rate:		98 mL/min.
Hydrogen Flow Rate:		69 mL/min.
Purge Valve:	Off at 0 min, on at 0.75 min	

Injection Volume: 2 μL

Run Sequence File: 767XA05

Quantitation Standards: GC mix 1→6 in clusive

Prepared By: [signature] Date: 18 July 97

Checked By: [signature] Date: 7-29-97

MCDO [43767] 29 767XAD5

ABC Laboratories, Inc.
Sample Information Report ver 3.3

Report Date: 19 JUL 97 at 14:02:15
Page 1

Sample Name	No.	Type	Level	User Parameter 1 Final Volume	User Parameter 2 Factor 1	User Parameter 3 Factor 2
Solvent Blank	1	SA		1.00000	1.00000	1.00000
GCMIX-1 NOMINAL 100 ng/mL	2	ST	01	1.00000	1.00000	1.00000
GCMIX-2 NOMINAL 60 ng/mL	3	ST	02	1.00000	1.00000	1.00000
43767-074	4	SA		1.00000	1.00000	1.00000
43767-075	5	SA		1.00000	1.00000	1000.00000
43767-076	6	SA		1.00000	1.00000	1000.00000
GCMIX-3 NOMINAL 40 ng/mL	7	ST	03	1.00000	1.00000	1.00000
43767-077	8	SA		15.00000	1.00000	1000.00000
43767-078	9	SA		15.00000	1.00000	1000.00000
GCMIX-4 NOMINAL 20 ng/mL	10	ST	04	1.00000	1.00000	1.00000
43767-079	11	SA		25.00000	25.50000	500.00000
43767-080	12	SA		25.00000	25.50000	500.00000
GCMIX-5 NOMINAL 10 ng/mL	13	ST	05	1.00000	1.00000	1.00000
GCMIX-6 NOMINAL 4 ng/mL	14	ST	06	1.00000	1.00000	1.00000

MCDO [43767] 29 767XAD5

ABC Laboratories, Inc.
Results Information Report ver 3.3
Component Name: DIAZINON

Report Date: 19 JUL 97
Time: 14:02:15
Page: 1

Sample Name	SMP #	INJ #	RT(mins)	Height	ng/mL or ug	CAL. RANG	Peak Type	Bad INJ
Solvent Blank	1	1	0.00	0	0.00000	UNDR	OBF	---
GCMIX-1 NOMINAL 100 ng/mL	2	1	5.93	104085	97.74555		OB	---
GCMIX-2 NOMINAL 60 ng/mL	3	1	5.93	64752	60.67639		OB	---
43767-074	4	1	0.00	0	0.00000	UNDR	OBF	---
43767-075	5	1	5.95	11111	0.01012		OF	---
43767-076	6	1	5.92	11313	0.01031		O	---
GCMIX-3 NOMINAL 40 ng/mL	7	1	5.94	43262	40.42270		OBF	---
43767-077	8	1	5.94	63872	0.89770		OB	---
43767-078	9	1	5.93	71764	1.00926		OB	---
GCMIX-4 NOMINAL 20 ng/mL	10	1	5.93	20962	19.40621		OBF	---
43767-079	11	1	5.93	77204	92.32423		OB	---
43767-080	12	1	5.93	77649	92.85967		OB	---
GCMIX-5 NOMINAL 10 ng/mL	13	1	5.94	10940	9.96112		O	---
GCMIX-6 NOMINAL 4 ng/mL	14	1	5.93	4555	3.94325		OBF	---

MCDO [43767] 29 767XAD5

ABC Laboratories, Inc.
Results Information Report ver 3.3
Component Name: MALATHION

Report Date: 19 JUL 97
Time: 14:02:15
Page: 1

Sample Name	SMP #	INJ #	RT(mins)	Height	ng/mL or ug	CAL. RANG	Peak Type	Bad INJ
Solvent Blank	1	1	0.00	0	0.00000	UNDR	O	---
GCMIX-1 NOMINAL 100 ng/mL	2	1	6.79	65280	100.40713		OBF	---
GCMIX-2 NOMINAL 60 ng/mL	3	1	6.79	39874	61.25272		OB	---
43767-074	4	1	0.00	0	0.00000	UNDR	O	---
43767-075	5	1	6.80	7155	0.01083		OB	---
43767-076	6	1	6.77	6854	0.01036		O	---
GCMIX-3 NOMINAL 40 ng/mL	7	1	6.79	27773	42.60209		OBF	---
43767-077	8	1	6.80	47629	1.09806		OB	---
43767-078	9	1	6.79	48838	1.12601		OBF	---
GCMIX-4 NOMINAL 20 ng/mL	10	1	6.79	13414	20.47265		OB	---
43767-079	11	1	6.78	52535	102.97681		OB	---
43767-080	12	1	6.79	51940	101.80687		OB	---
GCMIX-5 NOMINAL 10 ng/mL	13	1	6.80	6638	10.02944		OBF	---
GCMIX-6 NOMINAL 4 ng/mL	14	1	6.79	2739	4.02103		OB	---

Acquisition and Peak Processing Parameters Report Print Date and Time : 19 JUL 97 14:09:53
Page : 1

MCDO [43767] 29 767XAD5 Based on Sample Number : 1 Injection Number : 1

ACQUISITION PARAMETERS

Data Collection :

Length of Run..... 14.97 mins
Post Injection Delay..... 0.00 mins
Sampling Rate..... 15.00 Hz

PEAK PROCESSING PARAMETERS

Auto Process Parameters :

Peak Threshold..... 0.50
Baseline Test..... 4
Peak Trend..... 4

Separation Parameters :

Shoulder Sensitivity..... 0.10
Rider Sensitivity..... 0.05

Rejection Parameters :

Minimum Peak Width..... 0.00 secs
Minimum Peak Height..... 0.00 uV
Minimum Peak Area..... 3000.00 uVs
Ignore Flat Top Peak..... No

User Imposed Action Control :

Forced Baseline..... No
Suppress Integration..... Yes
Tangent Skimming..... No
Shoulder Detection..... No
Data Bunching..... No
Negative Detection..... No

Integration Modes :

Retention Time Integration..... No
Square Root Area and Height..... Yes

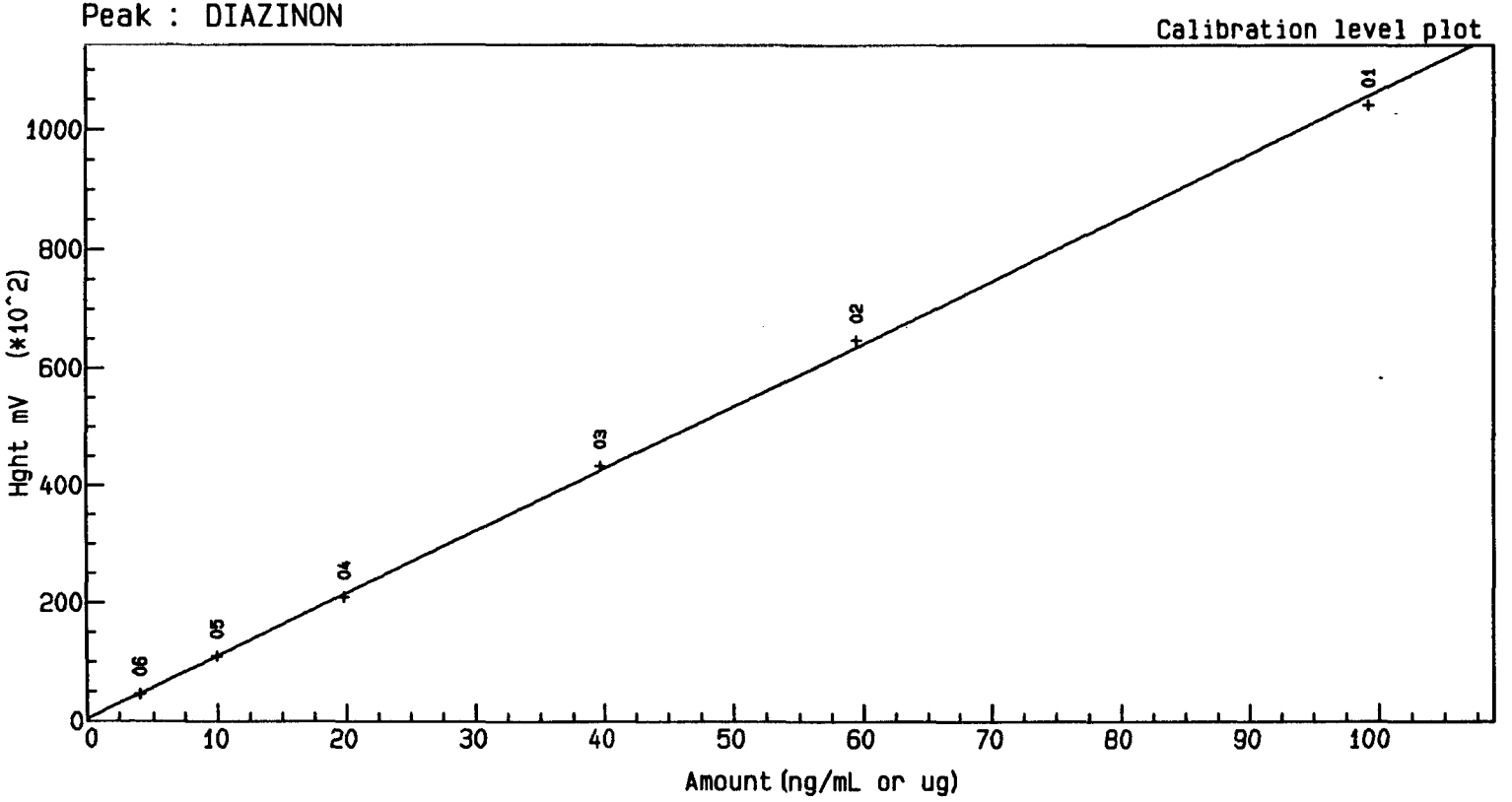
PROCESSING ACTIONS

Time (mins)	Force Baseline	Integrate Suppress	Tangent Skim	Bunch Size	Shoulder Detect	Negative Detect
0.00	--	SS	_	0	--	--
5.30	--	ES	_	0	--	--
7.50	--	SI	_	0	--	--

These parameters apply to all injections of set 767XAD5 with no exceptions

ABC Laboratories, Inc. Multichrom ver 1.8-2

Calibration Name : 29 767XAD5.
43767 XAD Air Tubes Set 2
Peak : DIAZINON



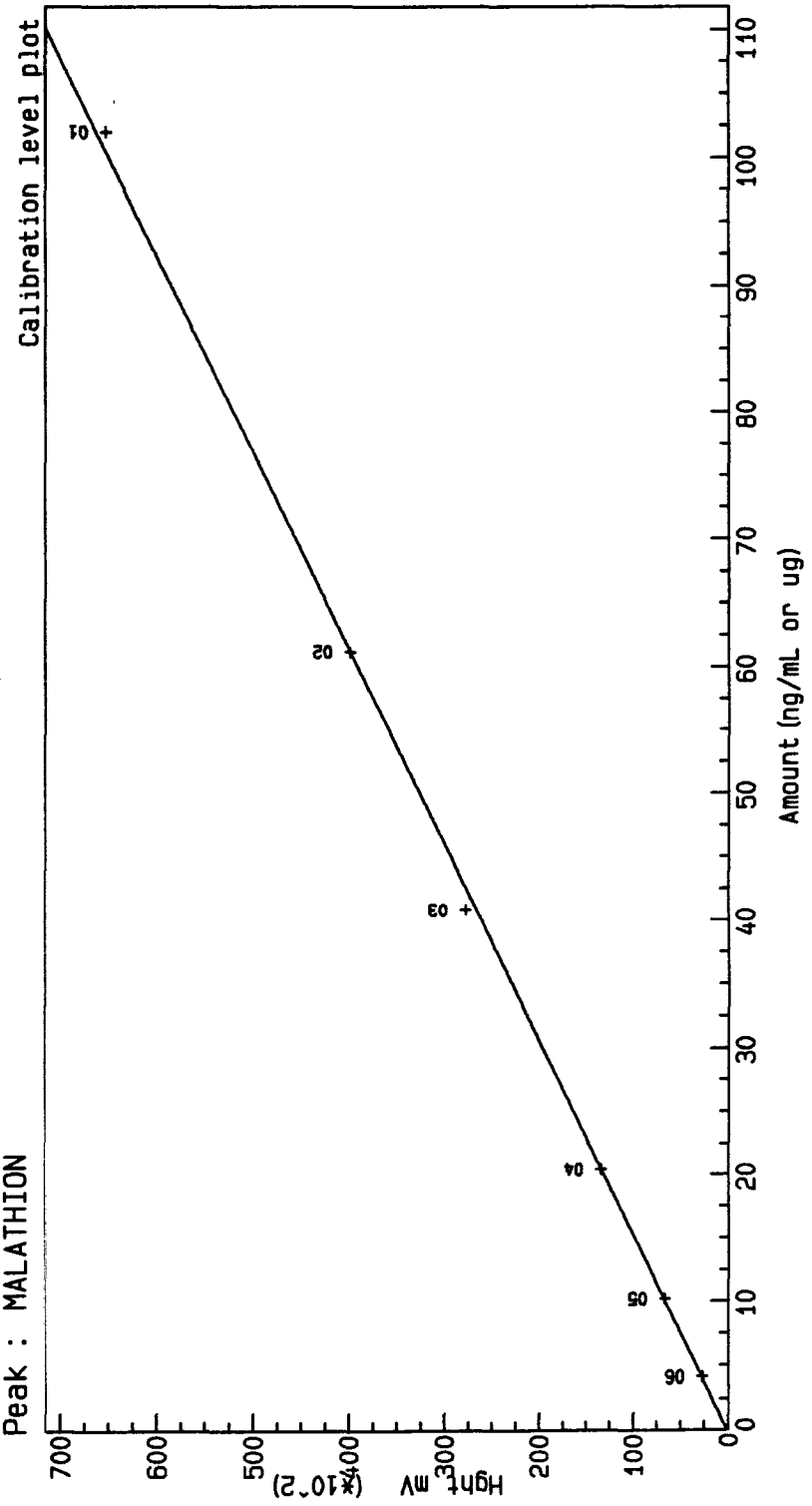
Constant : 3.70839E+2
1st degree : 1.06106E+3

Curve fit : Linear
Correlation coefficient : 0.99967
Standard error : 1.08456E+3

Reported on 19-JUL-1997 at 14:10

ABC Laboratories, Inc. Multichrom ver 1.8-2

Calibration Name : 29 767XAD5.
43767 XAD Air Tubes Set 2
Peak : MALATHION



Constant : 1.29889E+2
1st degree : 6.48856E+2

Curve fit : Linear
Correlation coefficient : 0.99956
Standard error : 7.83034E+2

Reported on 19-JUL-1997 at 14:10

ABC Laboratories, Inc.

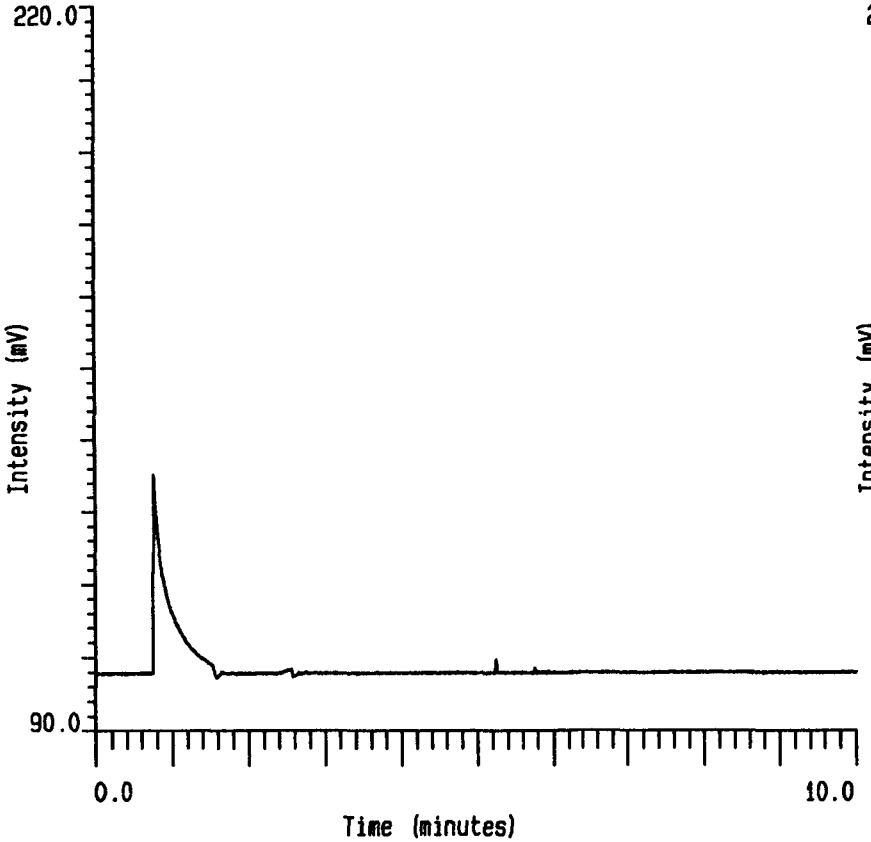
MCPP ver 2.3

43767 XAD Air Tubes Set 2

Date of Report: 19 JUL 97 at 14:11:21

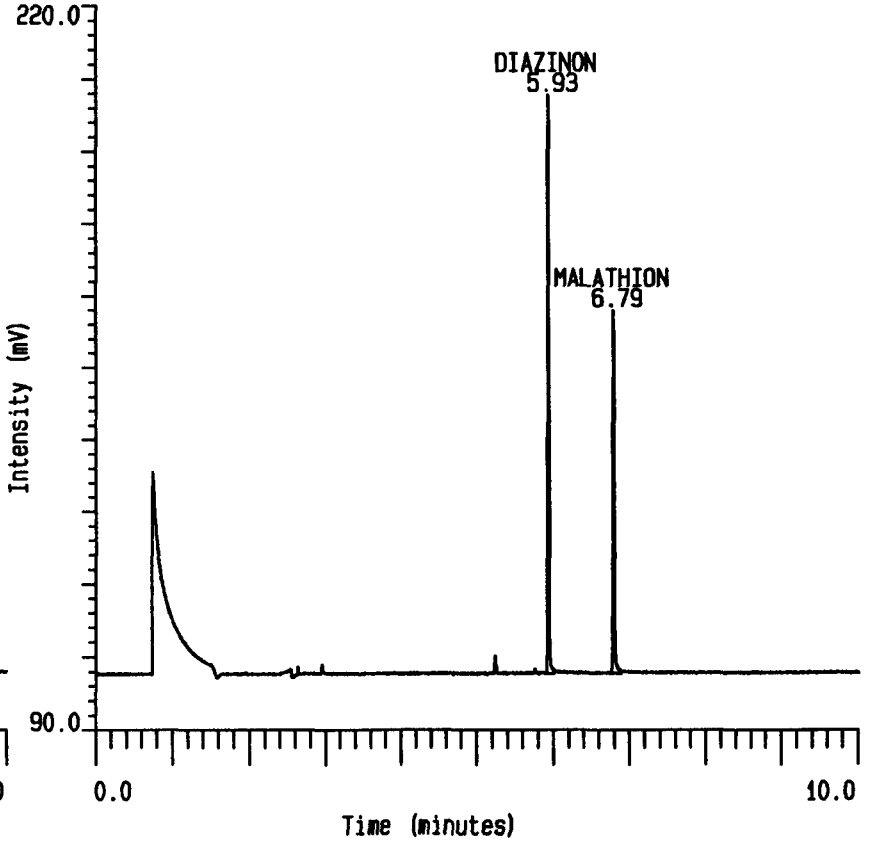
MCDO [43767] 29 767XAD5, 1, 1
Solvent Blank
Acquired on 18-Jul-1997 at 08:51

Peak Name	RT (mins)	Height	ng/mL or ug
DIAZINON	0.00	0	0
MALATHION	0.00	0	0



MCDO [43767] 29 767XAD5, 2, 1
GCMIX-1 NOMINAL 100 ng/mL
Acquired on 18-Jul-1997 at 09:11

Peak Name	RT (mins)	Height	ng/mL or ug
DIAZINON	5.93	104085	97.74555
MALATHION	6.79	65280	100.40713



ABC Laboratories, Inc.

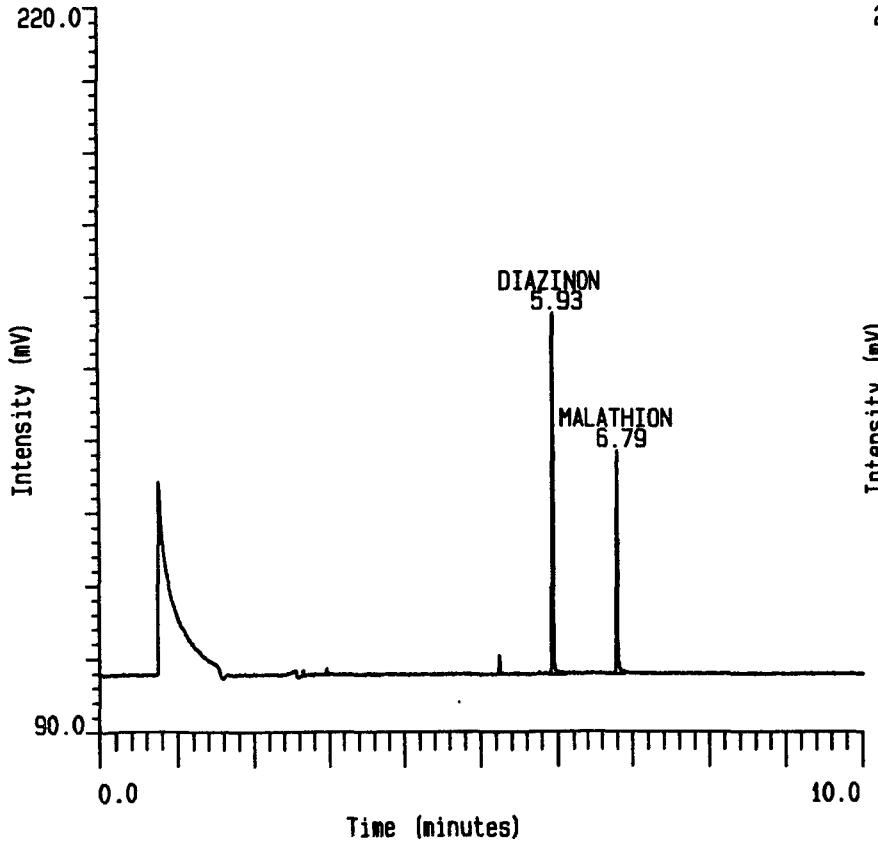
MCPP ver 2.3

43767 XAD Air Tubes Set 2

Date of Report: 19 JUL 97 at 14:11:21

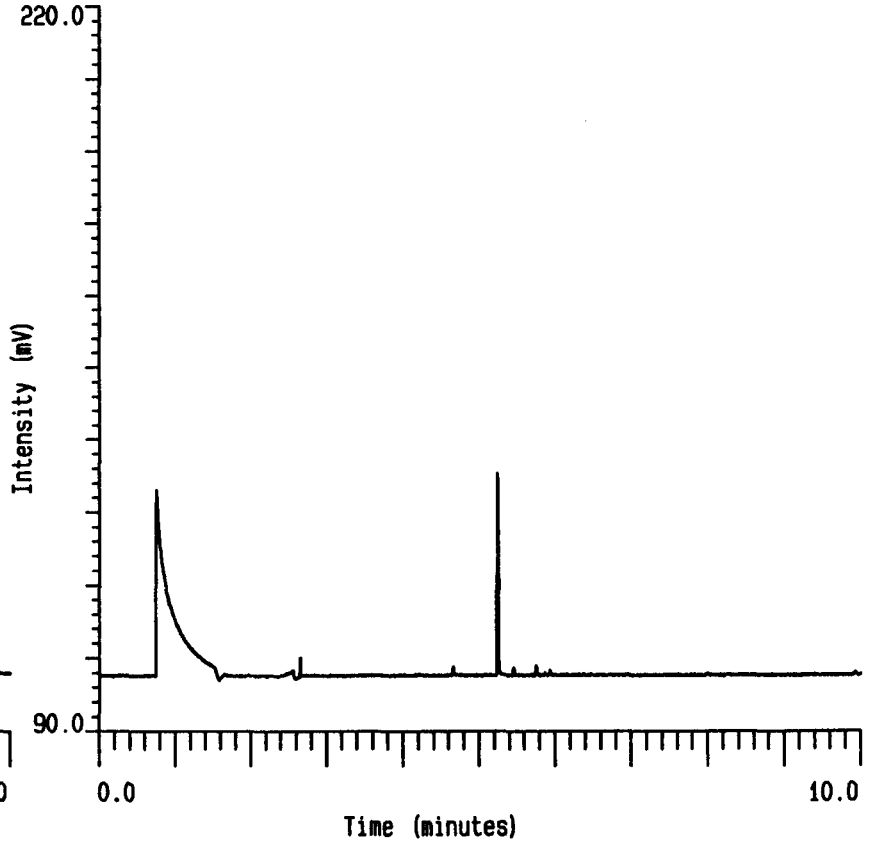
MCDO [43767] 29 767XAD5,3,1
GCMIX-2 NOMINAL 60 ng/mL
Acquired on 18-Jul-1997 at 09:32

Peak Name	RT (mins)	Height	ng/mL or ug
DIAZINON	5.93	64752	60.67639
MALATHION	6.79	39874	61.25272



MCDO [43767] 29 767XAD5,4,1
43767-074
Acquired on 18-Jul-1997 at 09:52

Peak Name	RT (mins)	Height	ng/mL or ug
DIAZINON	0.00	0	0
MALATHION	0.00	0	0



ABC Laboratories, Inc.

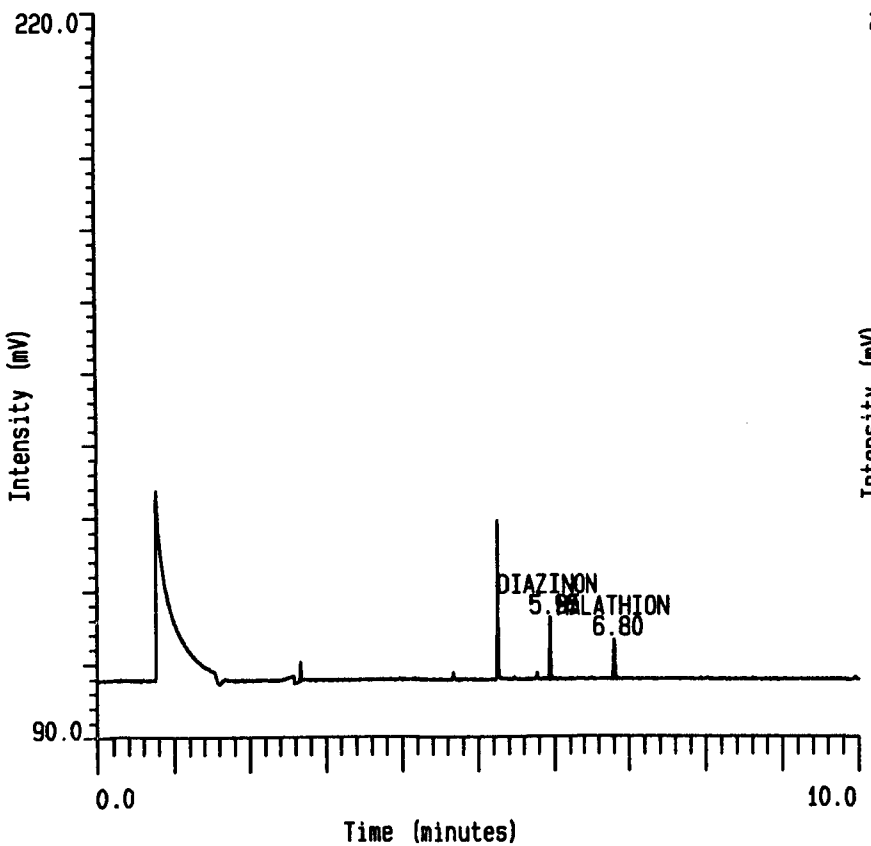
MCPP ver 2.3

43767 XAD Air Tubes Set 2

Date of Report: 19 JUL 97 at 14:11:21

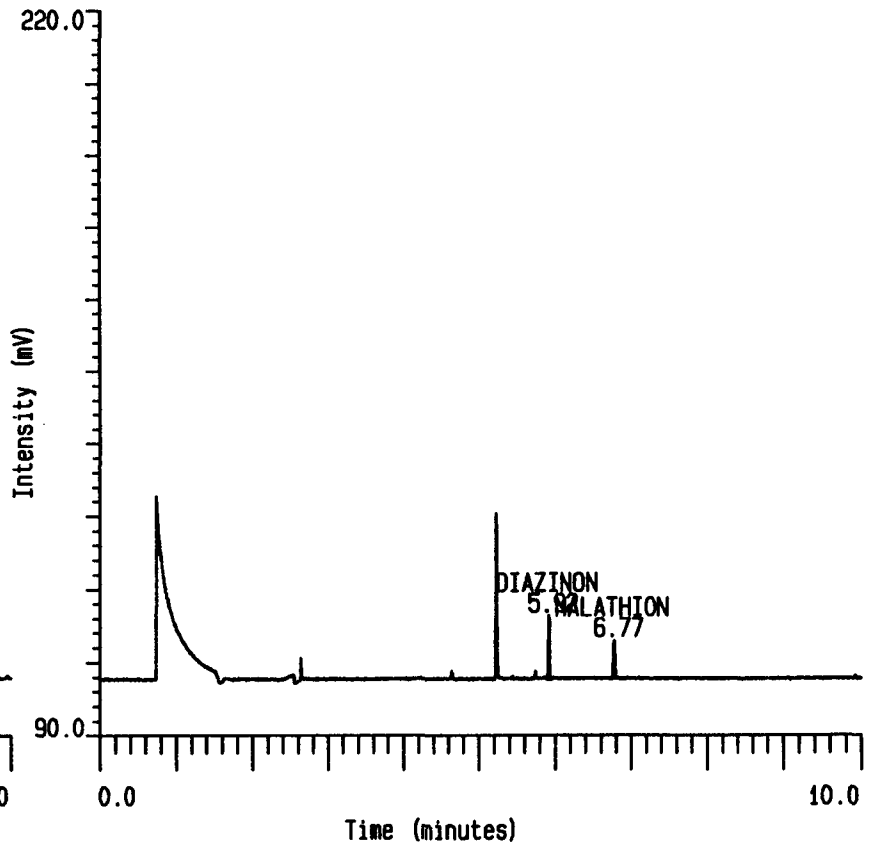
MCDO [43767] 29 767XAD5,5,1
43767-075
Acquired on 18-Jul-1997 at 10:13

Peak Name	RT (mins)	Height	ng/mL or ug
DIAZINON	5.95	11111	0.01012
MALATHION	6.80	7155	0.01083



MCDO [43767] 29 767XAD5,6,1
43767-076
Acquired on 18-Jul-1997 at 10:33

Peak Name	RT (mins)	Height	ng/mL or ug
DIAZINON	5.92	11313	0.01031
MALATHION	6.77	6854	0.01036



ABC Laboratories, Inc.

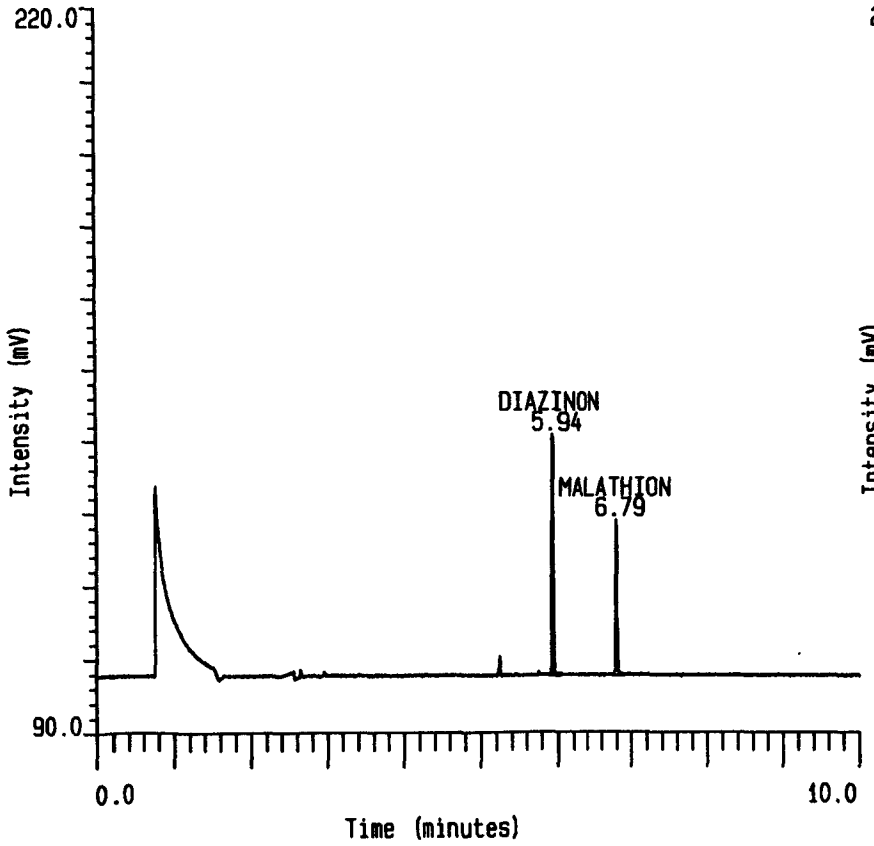
MCPP ver 2.3

43767 XAD Air Tubes Set 2

Date of Report: 19 JUL 97 at 14:11:21

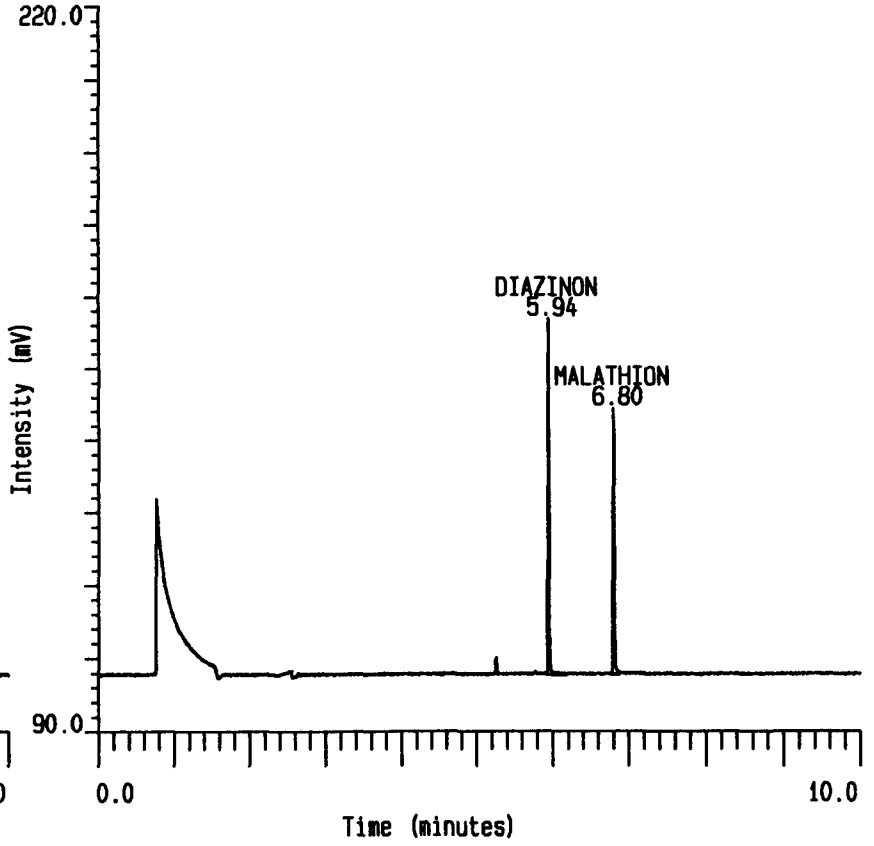
MCDO [43767] 29 767XAD5,7,1
GCMIX-3 NOMINAL 40 ng/mL
Acquired on 18-Jul-1997 at 10:53

Peak Name	RT (mins)	Height	ng/mL or ug
DIAZINON	5.94	43262	40.42270
MALATHION	6.79	27773	42.60209



MCDO [43767] 29 767XAD5,8,1
43767-077
Acquired on 18-Jul-1997 at 11:14

Peak Name	RT (mins)	Height	ng/mL or ug
DIAZINON	5.94	63872	0.89770
MALATHION	6.80	47629	1.09806



ABC Laboratories, Inc.

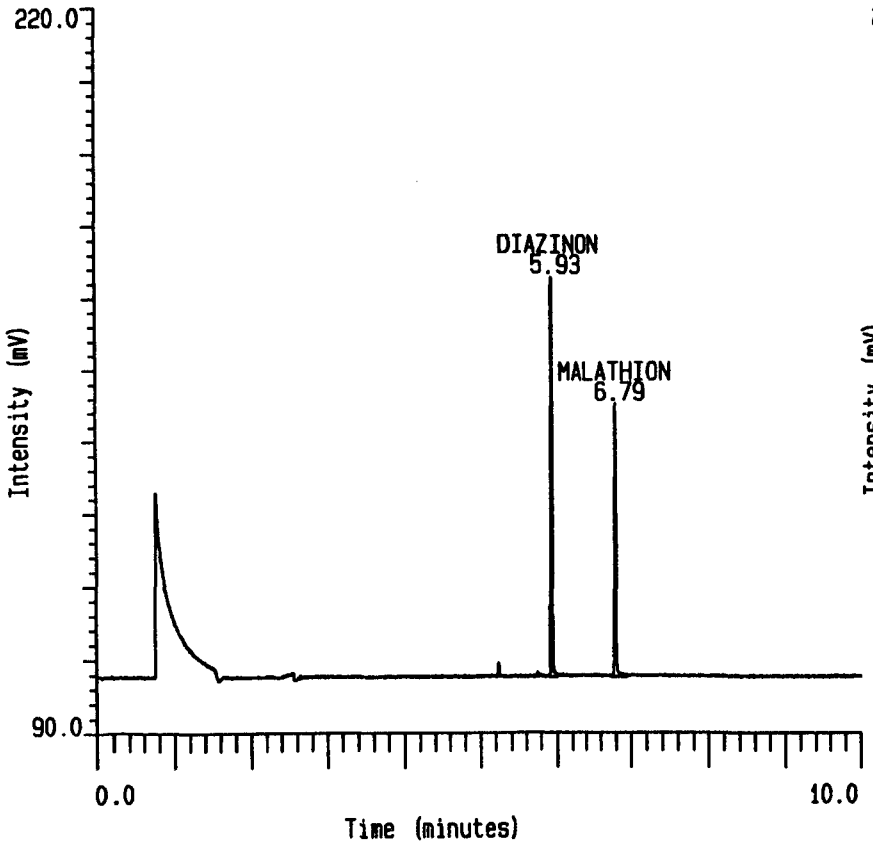
MCPP ver 2.3

43767 XAD Air Tubes Set 2

Date of Report: 19 JUL 97 at 14:11:21

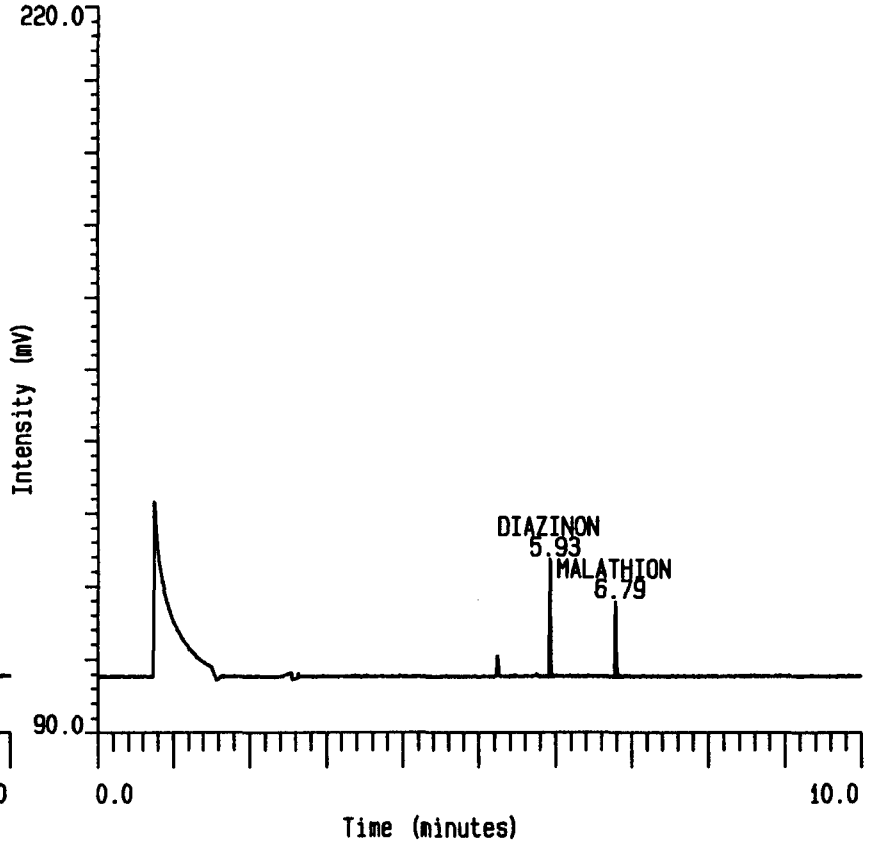
MCDO [43767] 29 767XAD5,9,1
43767-078
Acquired on 18-Jul-1997 at 11:34

Peak Name	RT (mins)	Height	ng/mL or ug
DIAZINON	5.93	71764	1.00926
MALATHION	6.79	48838	1.12601



MCDO [43767] 29 767XAD5,10,1
GCMIX-4 NOMINAL 20 ng/mL
Acquired on 18-Jul-1997 at 11:54

Peak Name	RT (mins)	Height	ng/mL or ug
DIAZINON	5.93	20962	19.40621
MALATHION	6.79	13414	20.47265



ABC Laboratories, Inc.

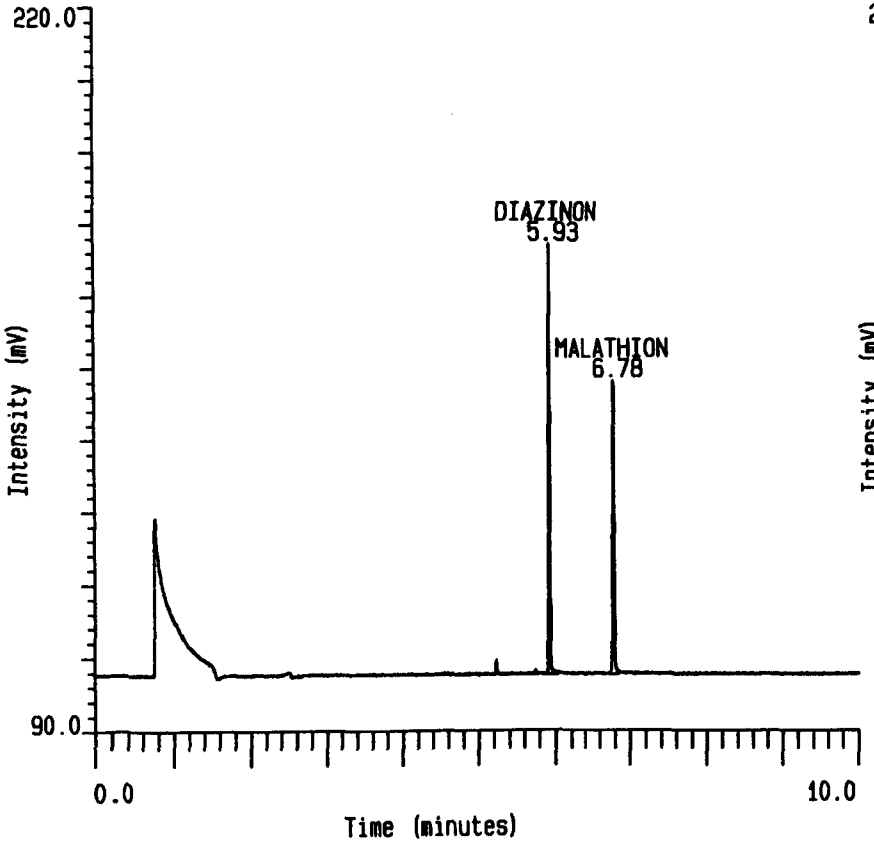
MCPP ver 2.3

43767 XAD Air Tubes Set 2

Date of Report: 19 JUL 97 at 14:11:21

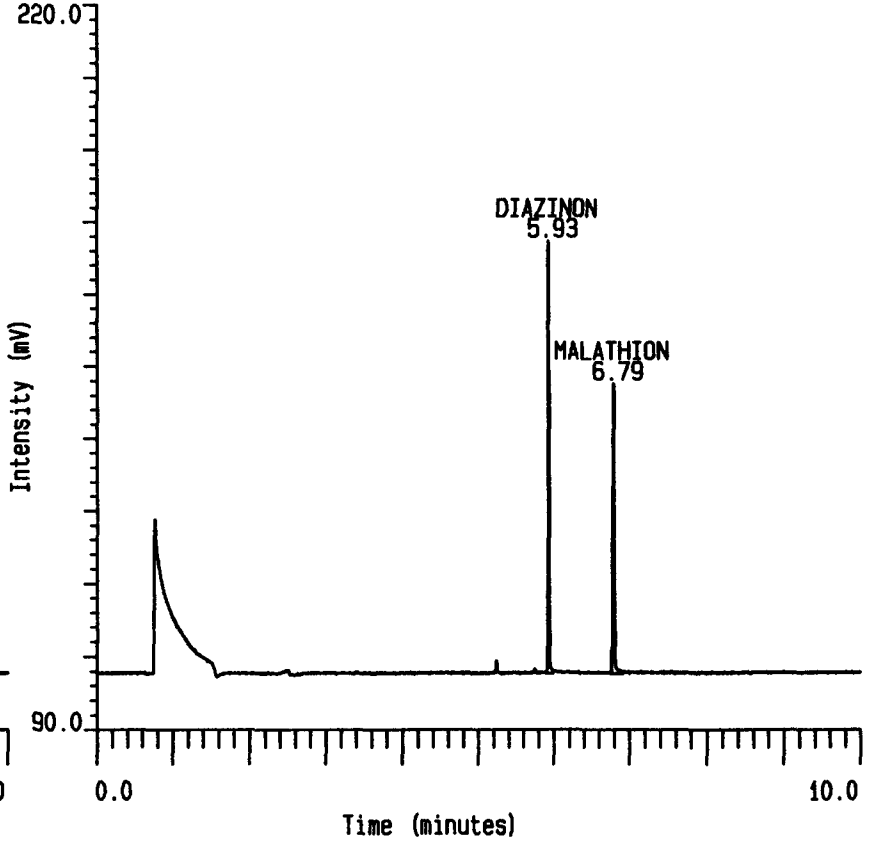
MCDO [43767] 29 767XAD5, 11, 1
43767-079
Acquired on 18-Jul-1997 at 12:15

Peak Name	RT (mins)	Height	ng/mL or ug
DIAZINON	5.93	77204	92.32423
MALATHION	6.78	52535	102.97681



MCDO [43767] 29 767XAD5, 12, 1
43767-080
Acquired on 18-Jul-1997 at 12:35

Peak Name	RT (mins)	Height	ng/mL or ug
DIAZINON	5.93	77649	92.85967
MALATHION	6.79	51940	101.80687



ABC Laboratories, Inc.

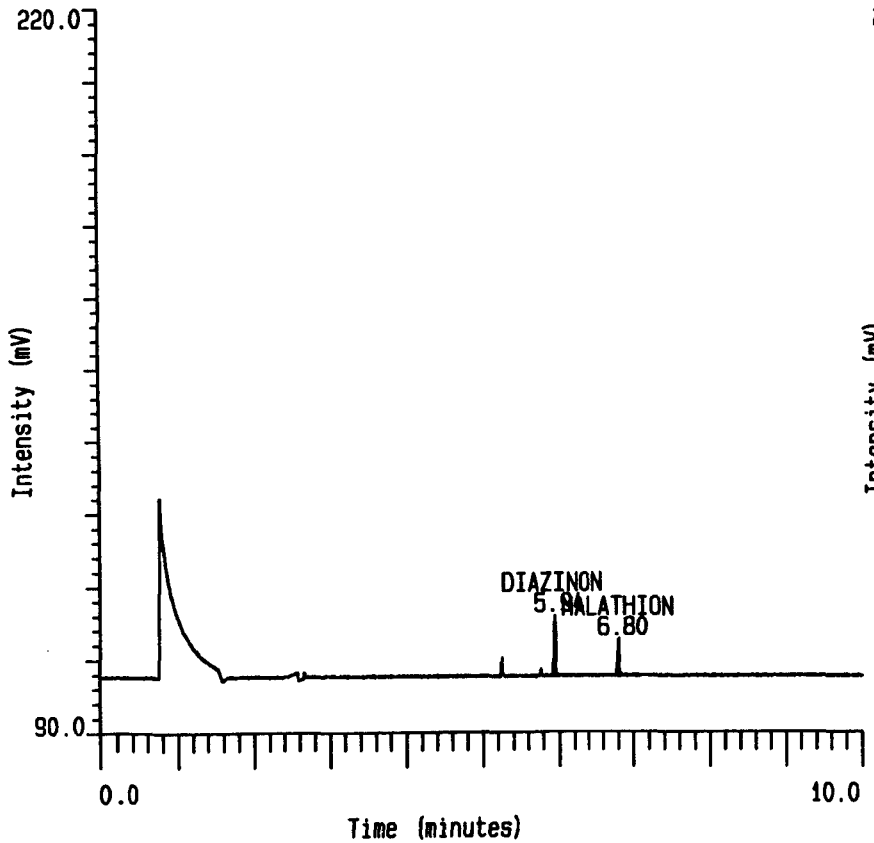
MCPP ver 2.3

43767 XAD Air Tubes Set 2

Date of Report: 19 JUL 97 at 14:11:21

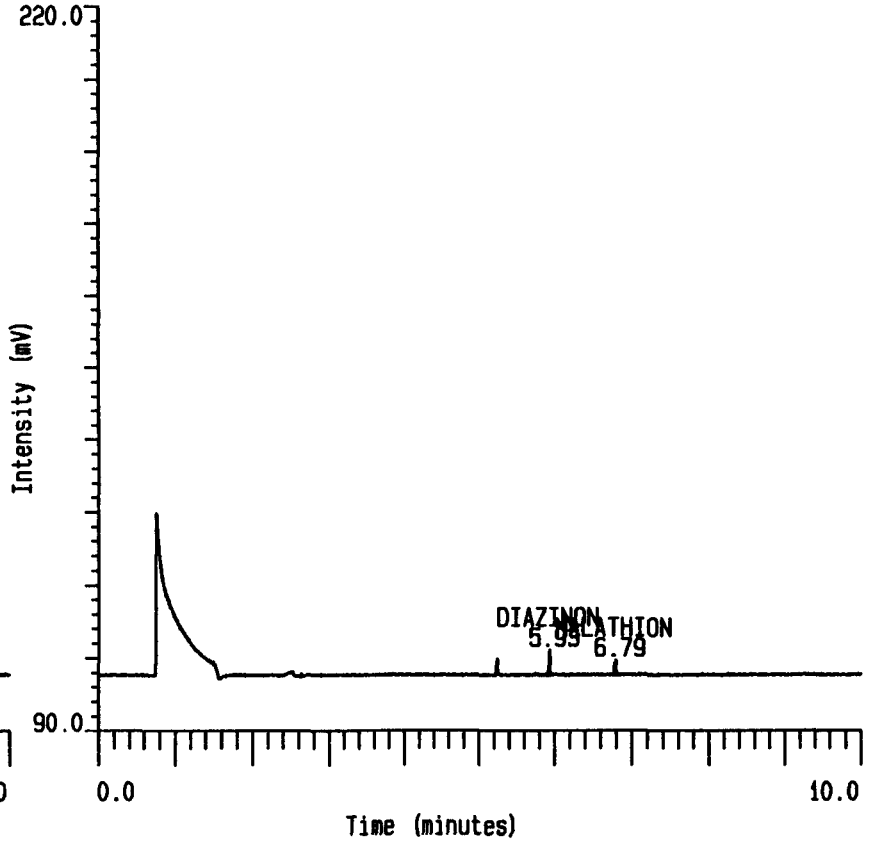
MCDO [43767] 29 767XAD5, 13, 1
GCMIX-5 NOMINAL 10 ng/mL
Acquired on 18-Jul-1997 at 12:55

Peak Name	RT (mins)	Height	ng/mL or ug
DIAZINON	5.94	10940	9.96112
MALATHION	6.80	6638	10.02944



MCDO [43767] 29 767XAD5, 14, 1
GCMIX-6 NOMINAL 4 ng/mL
Acquired on 18-Jul-1997 at 13:16

Peak Name	RT (mins)	Height	ng/mL or ug
DIAZINON	5.93	4555	3.94325
MALATHION	6.79	2739	4.02103



[43767] 29 767XAD5 Page 1
Reported on 21-JUL-1997 at 08:07
Modified on 19-JUL-1997 at 13:59

List Calibration File

CALIBRATION HEADER INFORMATION

Calibration Title : 43767 XAD Air Tubes Set 2
General :
Calibration type..... External standard
Units..... ng/mL or ug
Calibration base..... Height
Reference Peak Identification :
Reference window..... 5.0 %
Minimum window..... 0.50 mins
Peak threshold..... 0.0 %
Uncalibrated Peaks Response Factor :
Response factor source..... User set response factor
Response factor..... 0.0000
Additional Information :
Source library..... None
Initialise on 1st standard..... No
Variation tolerance..... 100.00 %
Calibrant Peak Identification :
Calibrant window..... 0.10 mins
Calibrant threshold..... 0.0 %
Response Factor Calibration Curve :
Curve fit..... Linear
Force through zero..... No
X transformation..... None
Y transformation..... None
Weighting..... 1 / Y
Retention Value Calibration Curve :
Curve fit..... Linear
Force through zero..... No
X transformation..... None
Y transformation..... None
Weighting..... None
Timed Calibration Curve :
Curve fit..... Linear
Force through zero..... No
X transformation..... None
Y transformation..... None
Weighting..... None
No group information entered.

[43767] 29 767XAD5 Page 2
Reported on 21-JUL-1997 at 08:07
Modified on 19-JUL-1997 at 13:59

Peak name : DIAZINON
Expected retention time : 5.94 mins (RT range : 5.89 - 5.99 mins)
Peak window mode..... Global
Group name identifier..... ----
Peak identification mode..... Largest
Must peak..... No
Reference peak..... No
Dilution peak..... No
Retention standard..... No
Response factor mode..... Internal Levels
Purity..... 100.0000

Calibration level	Standard amount	Response factor	Calibration count
06	3.9700	1147.3257	1
05	9.9200	1102.8451	1
04	19.8000	1058.6903	1
03	39.7000	1089.7206	1
02	59.5000	1088.2750	1
01	99.2000	1049.2451	1

Peak name : MALATHION
Expected retention time : 6.78 mins (RT range : 6.73 - 6.83 mins)
Peak window mode..... Global
Group name identifier..... ----
Peak identification mode..... Largest
Must peak..... No
Reference peak..... No
Dilution peak..... No
Retention standard..... No
Response factor mode..... Internal Levels
Purity..... 100.0000

Calibration level	Standard amount	Response factor	Calibration count
06	4.0800	671.3138	1
05	10.2000	650.7403	1
04	20.4000	657.5339	1
03	40.8000	680.6987	1
02	61.2000	651.5372	1
01	102.0000	639.9966	1

SAMPLE TRACKING FORM

Customer Name: ARTF	Study Director: Loren C. Schrier	Test Material: Diazinon and Malathion	Matrix: OVS Tubes
ARTF Protocol: ARF003	ABC Study Number: 43767	OVS Tubes Method Validation Set 2	

	Tube Contents Separation and Extraction	Concentration and Reconstitution	Vial	GC/FPD Analysis	Chromatography review: 19 Jul 97
	CYG 7-18-97	CYG 7-18-97	CYG 7-18-97	18 Jul 97 767 XADG	Spreadsheet entry by: 19 Jul 97

ABC Lab Number	Sample Identification	Extraction Volume	Final Volume and Dilutions	Fortified by: CYG 7-18-97 Witnessed by: JW 18 July 97
43767-088	Control	10 x 3	1.00 mL	
43767-089	Control + nominal 0.010 ug Each	10 x 3	1.00 mL	Fortify with 0.010 mL of 0.992 ug/mL diazinon and 1.02 ug/mL malathion mixed fortification solution (Fort-3)
43767-090	Control + nominal 0.010 ug Each	10 x 3	1.00 mL	Fortify with 0.010 mL of 0.992 ug/mL diazinon and 1.02 ug/mL malathion mixed fortification solution (Fort-3)

Remarks: the flask was placed in ice-water bath before 1.00 ml of 15% DCCDCE in acetone was added. CYG 7-18-97

Acetone: B&J Lot# B0369 CYG 7-18-97

Checked by 2-12-98 Approved by 12 Feb 98

[43767] 29 767XAD6 Page 1
Reported on 19-JUL-1997 at 12:40
Modified on 18-JUL-1997 at 12:15

List Run Sequence File

ANALYST NAME..... LOREN C. SCHRIER
43767 XAD Air Tubes Set 1 LOW LEVEL REPEATED AGAIN

ANALYSIS INFORMATION

Analysis name..... 767XAD6
Method name..... 767XAD6
Calibration name..... 767XAD6
Calibration sequence..... Average Standard
User parameter 1 name..... Final Volume
User parameter 2 name..... Factor 1
User parameter 3 name..... Factor 2

SAMPLE SUMMARY

SAMPLE NUMBER	LIMS ID	SAMPLE NAME
1	----------	GCMIX-1 NOMINAL 100 ng/mL
2	----------	GCMIX-2 NOMINAL 60 ng/mL
3	----------	SOLVENT BLANK
4	----------	43767-~~081~~ 88 (1)
5	----------	GCMIX-3 NOMINAL 40 ng/mL
6	----------	43767-~~082~~ 89 (1)
7	----------	43767-~~083~~ 90 (1)
8	----------	GCMIX-4 NOMINAL 20 ng/mL
9	----------	GCMIX-5 NOMINAL 10 ng/mL
10	----------	GCMIX-6 NOMINAL 4 ng/mL

SAMPLE INFORMATION

(1) Entry Error - wrong #'s.
JL 19 Jul 97

SAMPLE NUMBER	TYPE	CALIB LEVEL	UPDATE RT	UPDATE RF	AMOUNT	NUM INJ	BOT NUM
1	St	01	N	I	1.00000	1	2
2	St	02	N	I	1.00000	1	3
3	Sa	--	-	-	1.00000	1	4
4	Sa	--	-	-	1.00000	1	5
5	St	03	N	I	1.00000	1	7
6	Sa	--	-	-	1.00000	1	8
7	Sa	--	-	-	1.00000	1	9

[43767] 29 767XAD6 Page 2
Reported on 19-JUL-1997 at 12:40
Modified on 18-JUL-1997 at 12:15

SAMPLE NUMBER	TYPE	CALIB LEVEL	UPDATE RT	UPDATE RF	AMOUNT	NUM INJ	BOT NUM
8	St	04	N	I	1.00000	1	10
9	St	05	N	I	1.00000	1	13
10	St	06	N	I	1.00000	1	14

USER PARAMETER VALUES

SAMPLE	FINAL VOLUME	FACTOR 1	FACTOR 2
1	1.00000	1.00000	1.00000
2	1.00000	1.00000	1.00000
3	1.00000	1.00000	1.00000
4	1.00000	1.00000	1000.00000
5	1.00000	1.00000	1.00000
6	1.00000	1.00000	1000.00000
7	1.00000	1.00000	1000.00000
8	1.00000	1.00000	1.00000
9	1.00000	1.00000	1.00000
10	1.00000	1.00000	1.00000

INTERNAL/DILUTION STANDARDS

SAMPLE NUMBER	ISTD1 AMOUNT	ISTD2 AMOUNT	ISTD3 AMOUNT	DIL1 AMOUNT	DIL2 AMOUNT
1	1.00000	1.00000	1.00000	1.00000	1.00000
2	1.00000	1.00000	1.00000	1.00000	1.00000
3	1.00000	1.00000	1.00000	1.00000	1.00000
4	1.00000	1.00000	1.00000	1.00000	1.00000
5	1.00000	1.00000	1.00000	1.00000	1.00000
6	1.00000	1.00000	1.00000	1.00000	1.00000
7	1.00000	1.00000	1.00000	1.00000	1.00000
8	1.00000	1.00000	1.00000	1.00000	1.00000
9	1.00000	1.00000	1.00000	1.00000	1.00000
10	1.00000	1.00000	1.00000	1.00000	1.00000

[43767] 29 767XAD6 Page 3
Reported on 19-JUL-1997 at 12:40
Modified on 18-JUL-1997 at 12:15

PROCESSING ORDER

SAMPLE NUMBER	TYPE
1	Standard
2	Standard
5	Standard
8	Standard
9	Standard
10	Standard
3	Sample
4	Sample
6	Sample
7	Sample

Gas Chromatographic Instrument Parameters Form

ABC Laboratory Study Number: 43767
Customer Identification: ARTF

Instrument: HP 5890 Series II Material ID# 1652-0120
Autoinjector: HP 7673B Material ID# 1625-802A

Column: HP-5MS, 30 M X 0.25 mm, 0.25 μm film thickness
Serial#: 56253614

Detector Type: FPD/P

Electrometer: Range 4

Temperatures:
- Injector (°C): 230
- Detector (°C): 230
- Column:
  - Initial Temp.(°C): 95
  - Initial Time: 1.0 min.
  - Program Rate 1: 30 °C/min to 230 °C, hold 4 min
  - Program Rate 2: 40 °C/min to 290 °C, hold 4 min

Carrier Gas Flow Rate:	He	1.6 mL/min
Septum Purge:	He	2.0 mL/min
Make Up Gas:	He	21 mL/min
Air Flow Rate:		98 mL/min.
Hydrogen Flow Rate:		69 mL/min.
Purge Valve:	Off at 0 min, on at 0.75 min	

Injection Volume: 2 μL

Run Sequence File: 767XAD6

Quantitation Standards: GCMix 1 → 6 inclusive

Prepared By: [signature] Date: 18 Jul 97

Checked By: [signature] Date: 7-29-97

MCDO [43767] 29 767XAD6

ABC Laboratories, Inc.
Sample Information Report ver 3.3

Report Date: 19 JUL 97 at 13:25:50
Page 1

Sample Name	No.	Type	Level	User Parameter 1 Final Volume	User Parameter 2 Factor 1	User Parameter 3 Factor 2
GCMIX-1 NOMINAL 100 ng/mL	1	ST	01	1.00000	1.00000	1.00000
GCMIX-2 NOMINAL 60 ng/mL	2	ST	02	1.00000	1.00000	1.00000
SOLVENT BLANK	3	SA		1.00000	1.00000	1.00000
43767-088	4	SA		1.00000	1.00000	1000.00000
GCMIX-3 NOMINAL 40 ng/mL	5	ST	03	1.00000	1.00000	1.00000
43767-089	6	SA		1.00000	1.00000	1000.00000
43767-090	7	SA		1.00000	1.00000	1000.00000
GCMIX-4 NOMINAL 20 ng/mL	8	ST	04	1.00000	1.00000	1.00000
GCMIX-5 NOMINAL 10 ng/mL	9	ST	05	1.00000	1.00000	1.00000
GCMIX-6 NOMINAL 4 ng/mL	10	ST	06	1.00000	1.00000	1.00000

MCDO [43767] 29 767XAD6

ABC Laboratories, Inc.
Results Information Report ver 3.3
Component Name: DIAZINON

Report Date: 19 JUL 97
Time: 13:25:50
Page: 1

Sample Name	SMP #	INJ #	RT(mins)	Height	ng/mL or ug	CAL. RANG	Peak Type	Bad INJ
GCMIX-1 NOMINAL 100 ng/mL	1	1	5.93	109944	99.74757		OB	---
GCMIX-2 NOMINAL 60 ng/mL	2	1	5.94	64013	57.82513		OB	---
SOLVENT BLANK	3	1	0.00	0	0.00000	UNDR	OBF	---
43767-088	4	1	0.00	0	0.00000	UNDR	OB	---
GCMIX-3 NOMINAL 40 ng/mL	5	1	5.93	45154	40.61170		OB	---
43767-089	6	1	5.93	11099	0.00953		O	---
43767-090	7	1	5.94	11000	0.00944		OB	---
GCMIX-4 NOMINAL 20 ng/mL	8	1	5.93	22360	19.80758		OB	---
GCMIX-5 NOMINAL 10 ng/mL	9	1	5.94	12088	10.43161		OB	---
GCMIX-6 NOMINAL 4 ng/mL	10	1	5.94	4790	3.77042		O	---

MCDO [43767] 29 767XAD6

ABC Laboratories, Inc.
Results Information Report ver 3.3
Component Name: MALATHION

Report Date: 19 JUL 97
Time: 13:25:50
Page: 1

Sample Name	SMP #	INJ #	RT(mins)	Height	ng/mL or ug	CAL. RANG	Peak Type	Bad INJ
GCMIX-1 NOMINAL 100 ng/mL	1	1	6.79	69102	102.41294		OB	---
GCMIX-2 NOMINAL 60 ng/mL	2	1	6.79	40056	59.06653		OB	---
SOLVENT BLANK	3	1	0.00	0	0.00000	UNDR	O	---
43767-088	4	1	0.00	0	0.00000	UNDR	OB	---
GCMIX-3 NOMINAL 40 ng/mL	5	1	6.79	29032	42.61414		OB	---
43767-089	6	1	6.79	7261	0.01012		OB	---
43767-090	7	1	6.79	6859	0.00952		OB	---
GCMIX-4 NOMINAL 20 ng/mL	8	1	6.79	14155	20.41220		OBF	---
GCMIX-5 NOMINAL 10 ng/mL	9	1	6.80	7432	10.38039		O	---
GCMIX-6 NOMINAL 4 ng/mL	10	1	6.80	3126	3.95390		OB	---

Acquisition and Peak Processing Parameters Report Print Date and Time : 19 JUL 97 13:32:27
Page : 1

MCDO [43767] 29 767XAD6 Based on Sample Number : 1 Injection Number : 1

ACQUISITION PARAMETERS

Data Collection :

Length of Run..... 14.99 mins
Post Injection Delay..... 0.00 mins
Sampling Rate..... 15.00 Hz

PEAK PROCESSING PARAMETERS

Auto Process Parameters :

Peak Threshold..... 0.50
Baseline Test..... 4
Peak Trend..... 4

Separation Parameters :

Shoulder Sensitivity..... 0.10
Rider Sensitivity..... 0.05

Rejection Parameters :

Minimum Peak Width..... 0.00 secs
Minimum Peak Height..... 0.00 uV
Minimum Peak Area..... 2000.00 uVs
Ignore Flat Top Peak..... No

User Imposed Action Control :

Forced Baseline..... No
Suppress Integration..... Yes
Tangent Skimming..... No
Shoulder Detection..... No
Data Bunching..... No
Negative Detection..... No

Integration Modes :

Retention Time Integration..... No
Square Root Area and Height..... Yes

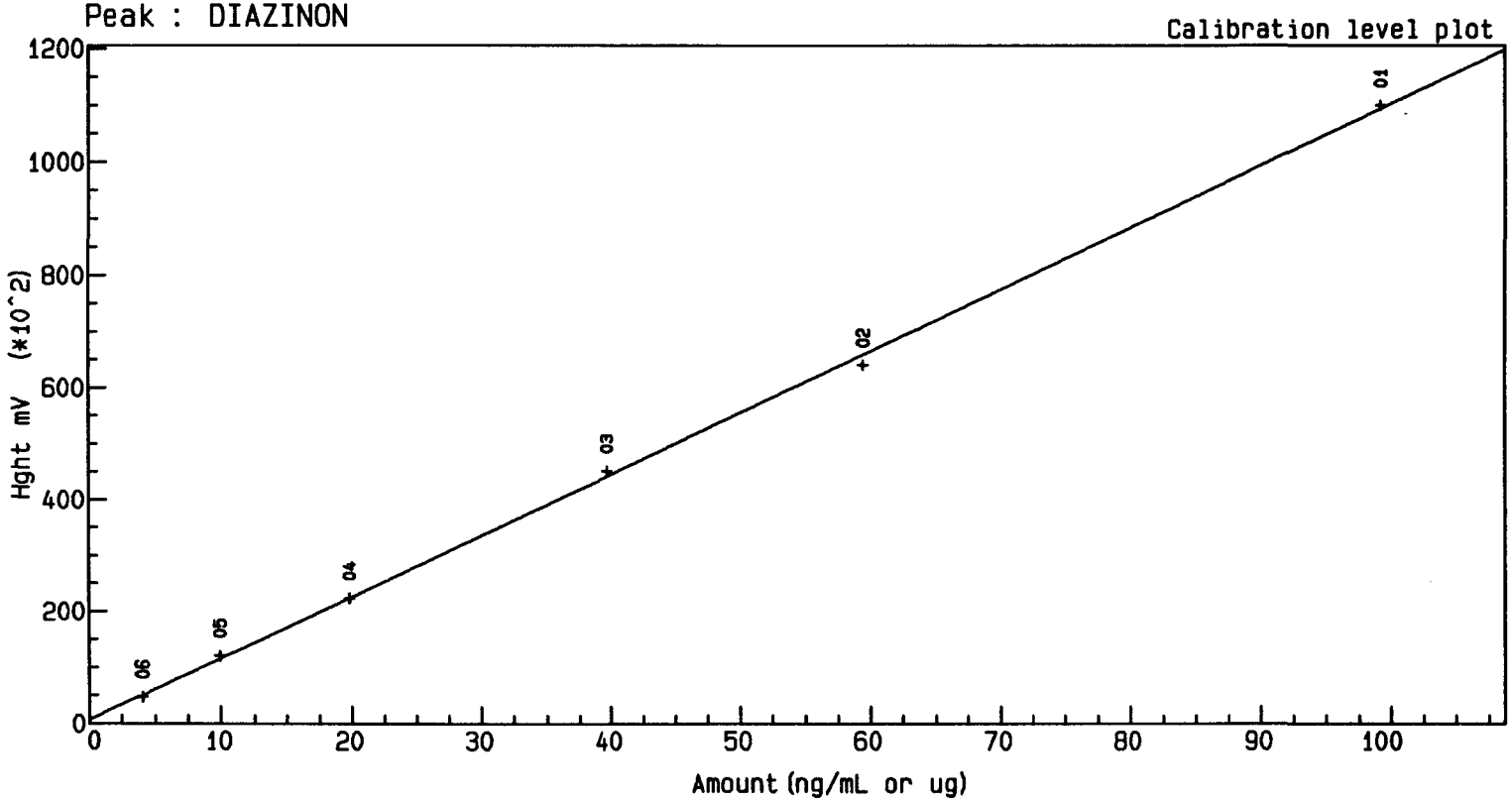
PROCESSING ACTIONS

Time (mins)	Force Baseline	Integrate Suppress	Tangent Skim	Bunch Size	Shoulder Detect	Negative Detect
0.00	--	SS	_	0	--	--
5.30	--	ES	_	0	--	--
7.50	--	SI	_	0	--	--

These parameters apply to all injections of set 767XAD6 with no exceptions

ABC Laboratories, Inc. Multichrom ver 1.8-2

Calibration Name : 29 767XAD6.
43767 XAD Air Tubes Set 1 LOW LEVEL REPEATED AGAIN
Peak : DIAZINON



Constant : 6.58569E+2
1st degree : 1.09562E+3

Curve fit : Linear
Correlation coefficient : 0.99967
Standard error : 1.12773E+3

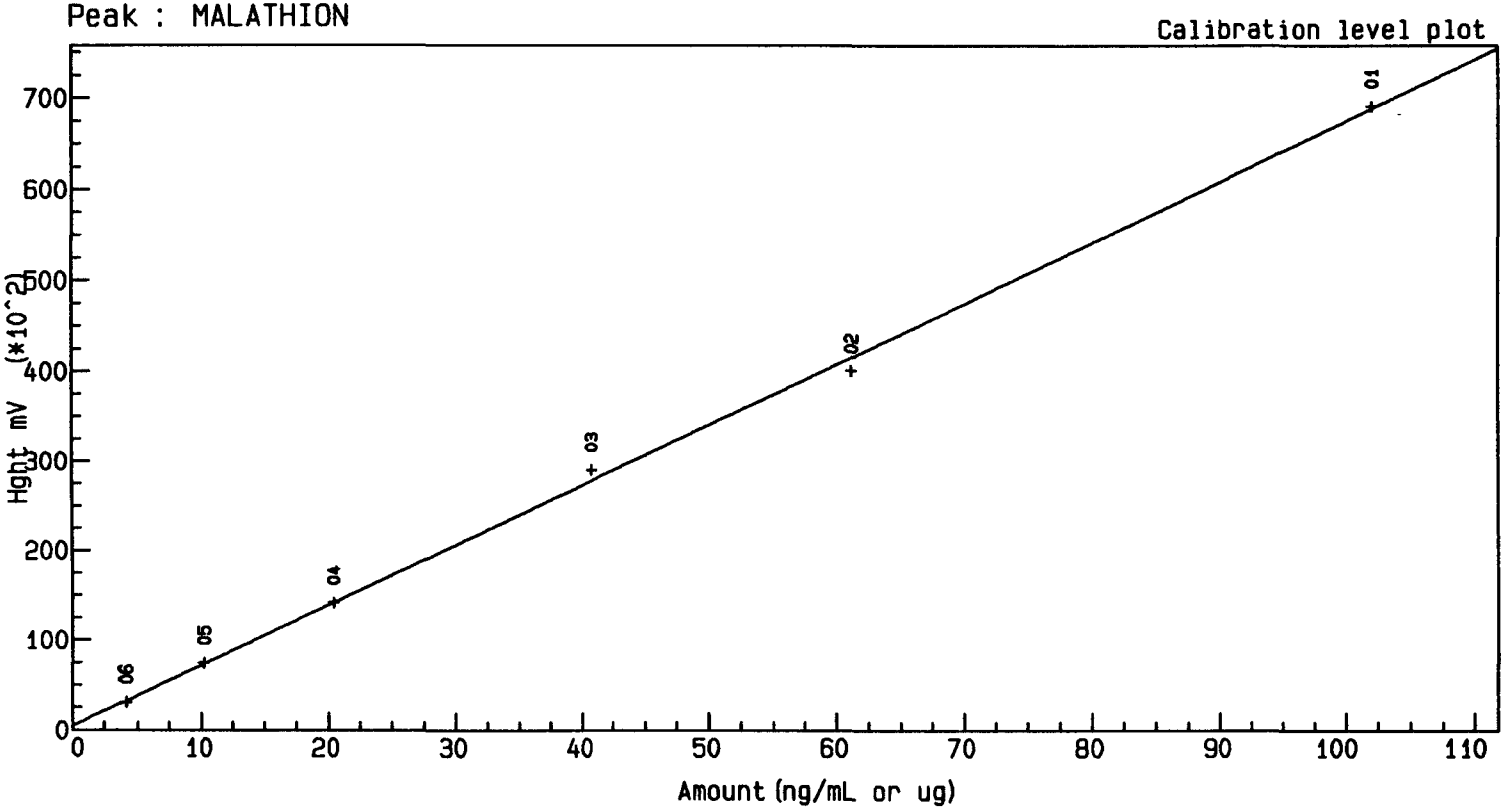
Reported on 19-JUL-1997 at 13:32

ABC Laboratories, Inc. Multichrom ver 1.8-2

Calibration Name : 29 767XAD6.

43767 XAD Air Tubes Set 1 LOW LEVEL REPEATED AGAIN

Peak : MALATHION



Constant : 4.76777E+2

1st degree : 6.70083E+2

Curve fit : Linear

Correlation coefficient : 0.99941

Standard error : 9.51299E+2

Reported on 19-JUL-1997 at 13:32

ABC Laboratories, Inc.

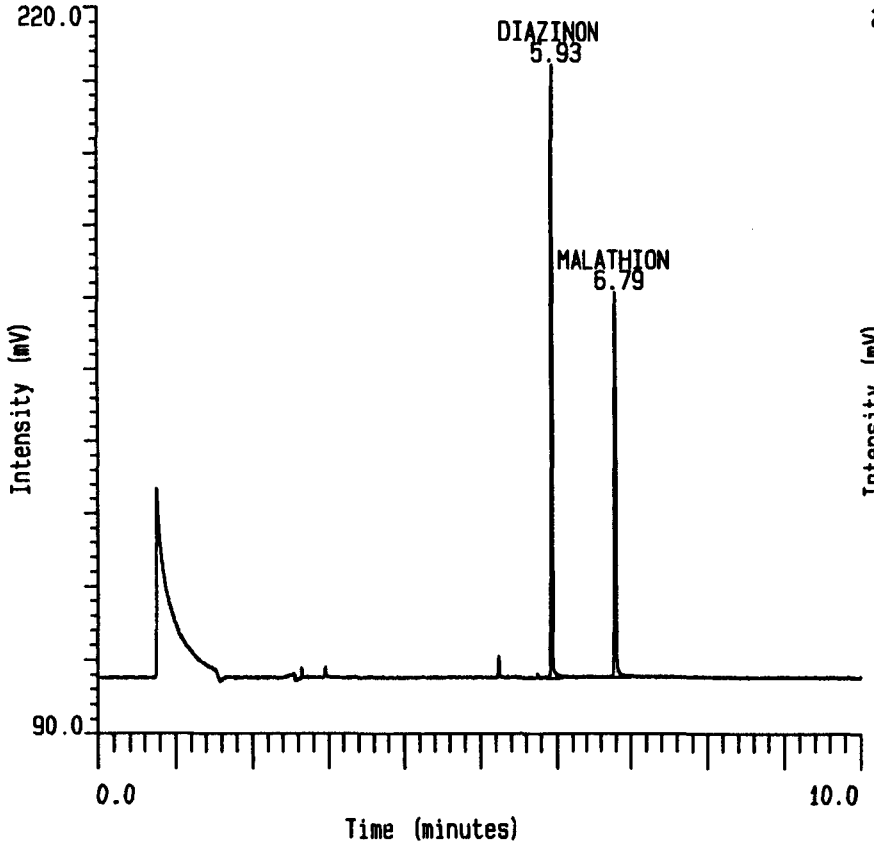
MCPP ver 2.3

43767 XAD Air Tubes Set 1 LOW LEVEL REPEATED AGAIN

Date of Report: 19 JUL 97 at 13:33:32

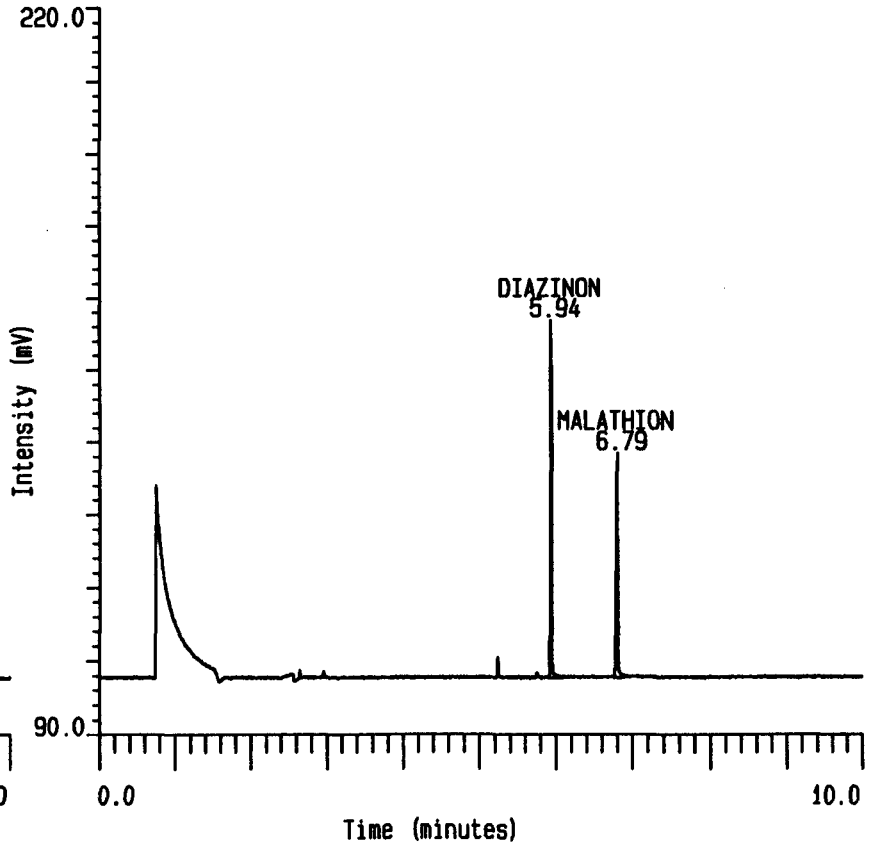
MCDO [43767] 29 767XAD6, 1, 1
GCMIX-1 NOMINAL 100 ng/mL
Acquired on 18-Jul-1997 at 22:05

Peak Name	RT (mins)	Height	ng/mL or ug
DIAZINON	5.93	109944	99.74757
MALATHION	6.79	69102	102.41294



MCDO [43767] 29 767XAD6, 2, 1
GCMIX-2 NOMINAL 60 ng/mL
Acquired on 18-Jul-1997 at 22:26

Peak Name	RT (mins)	Height	ng/mL or ug
DIAZINON	5.94	64013	57.82513
MALATHION	6.79	40056	59.06653



ABC Laboratories, Inc.

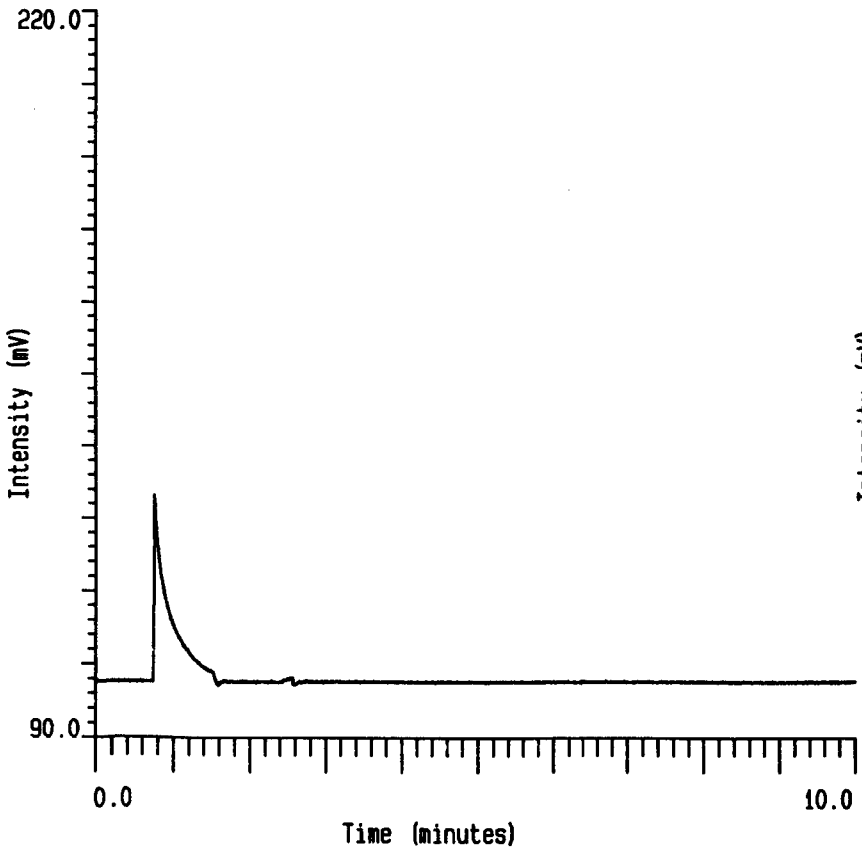
MCPP ver 2.3

43767 XAD Air Tubes Set 1 LOW LEVEL REPEATED AGAIN

Date of Report: 19 JUL 97 at 13:33:32

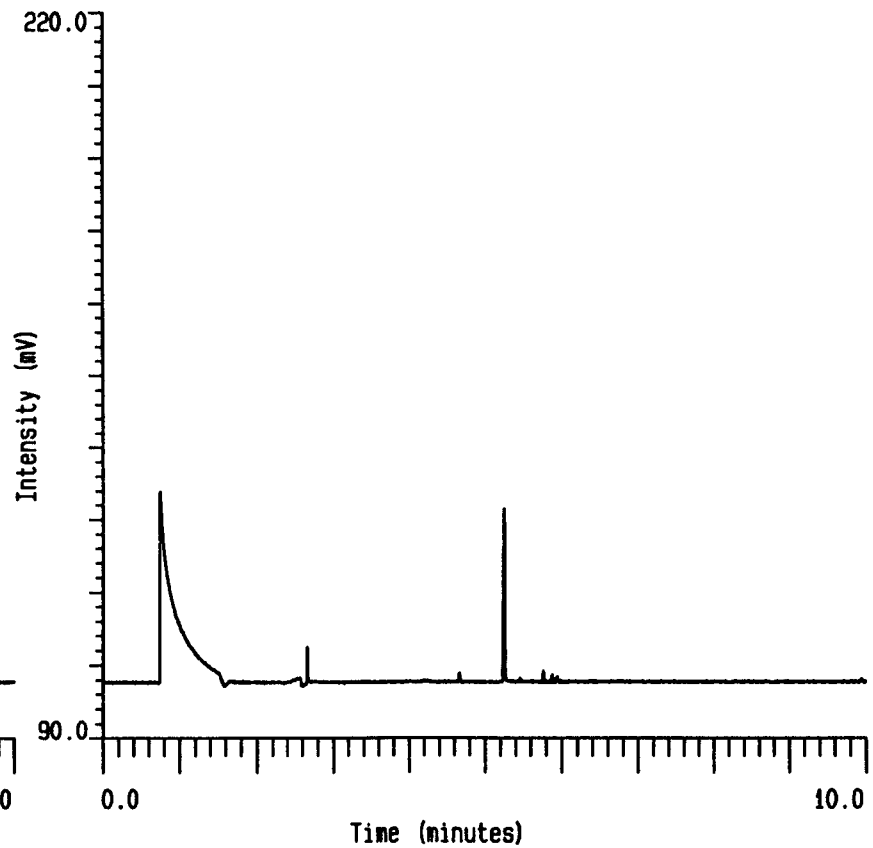
MCDO [43767] 29 767XAD6,3,1
SOLVENT BLANK
Acquired on 18-Jul-1997 at 22:46

Peak Name	RT (mins)	Height	ng/mL or ug
DIAZINON	0.00	0	0
MALATHION	0.00	0	0



MCDO [43767] 29 767XAD6,4,1
43767-088
Acquired on 18-Jul-1997 at 23:06

Peak Name	RT (mins)	Height	ng/mL or ug
DIAZINON	0.00	0	0
MALATHION	0.00	0	0



ABC Laboratories, Inc.

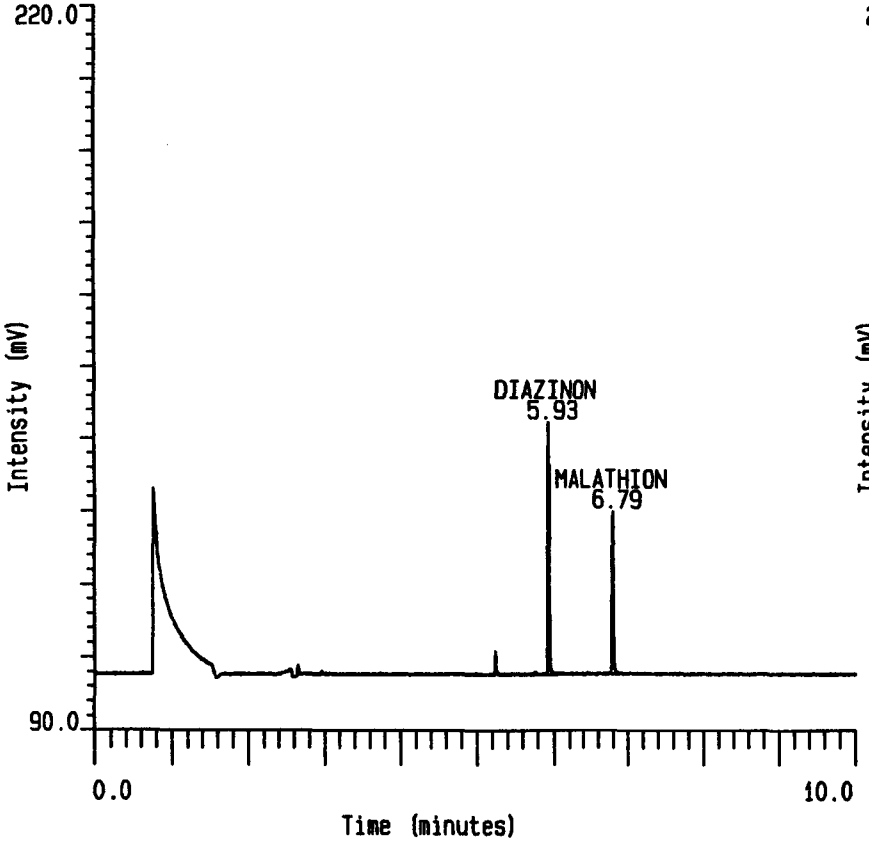
MCPP ver 2.3

43767 XAD Air Tubes Set 1 LOW LEVEL REPEATED AGAIN

Date of Report: 19 JUL 97 at 13:33:32

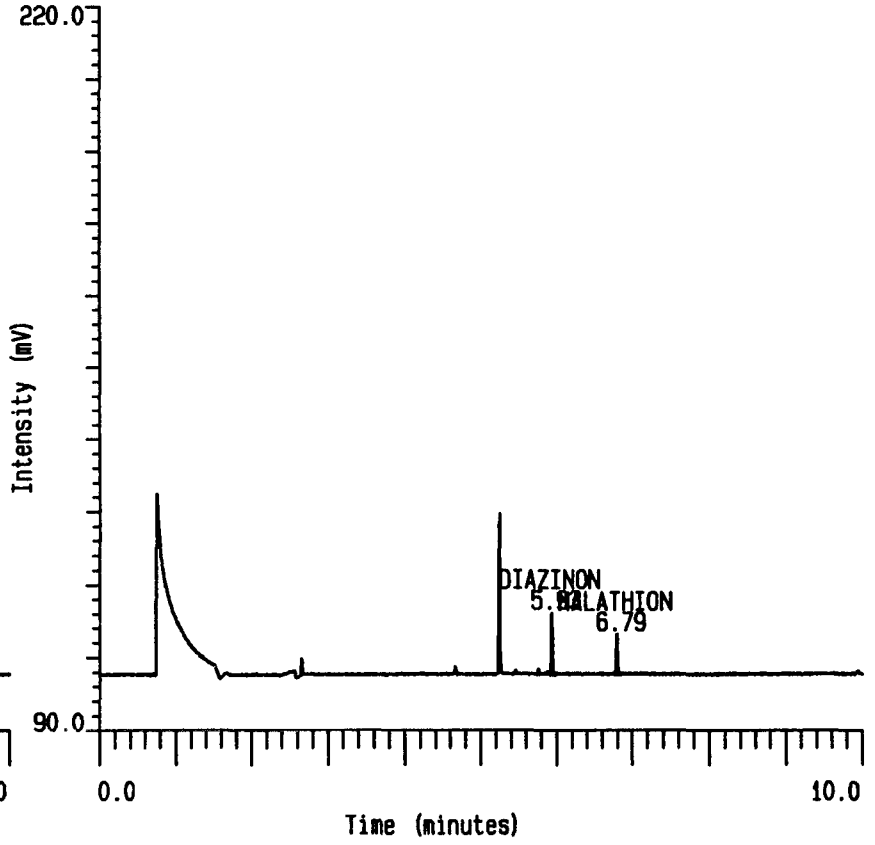
MCDO [43767] 29 767XAD6,5,1
GCMIX-3 NOMINAL 40 ng/mL
Acquired on 18-Jul-1997 at 23:27

Peak Name	RT (mins)	Height	ng/mL or ug
DIAZINON	5.93	45154	40.61170
MALATHION	6.79	29032	42.61414



MCDO [43767] 29 767XAD6,6,1
43767-089
Acquired on 18-Jul-1997 at 23:47

Peak Name	RT (mins)	Height	ng/mL or ug
DIAZINON	5.93	11099	0.00953
MALATHION	6.79	7261	0.01012



ABC Laboratories, Inc.

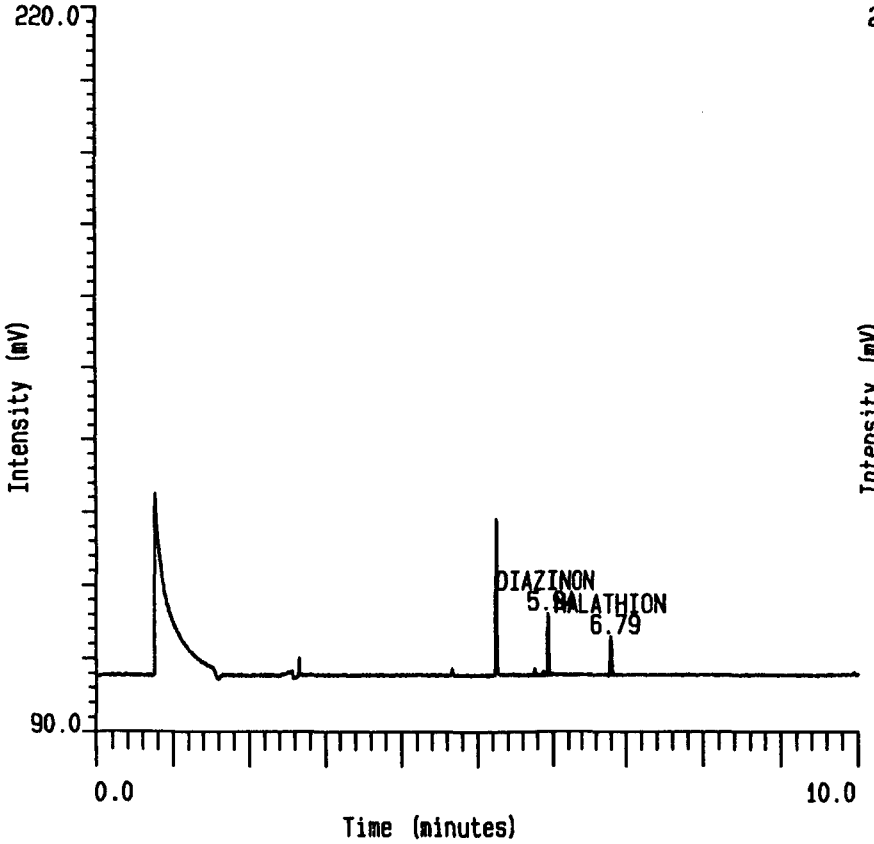
MCPP ver 2.3

43767 XAD Air Tubes Set 1 LOW LEVEL REPEATED AGAIN

Date of Report: 19 JUL 97 at 13:33:32

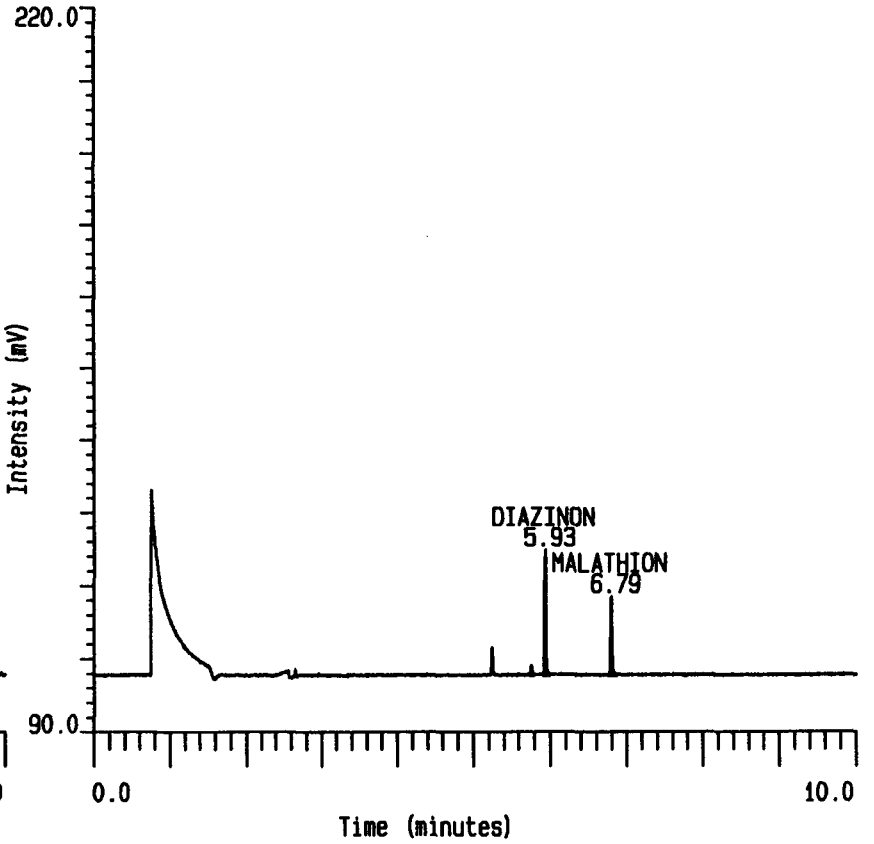
MCDO [43767] 29 767XAD6,7,1
43767-090
Acquired on 19-Jul-1997 at 00:07

Peak Name	RT (mins)	Height	ng/mL or ug
DIAZINON	5.94	11000	0.00944
MALATHION	6.79	6859	0.00952



MCDO [43767] 29 767XAD6,8,1
GCMIX-4 NOMINAL 20 ng/mL
Acquired on 19-Jul-1997 at 00:28

Peak Name	RT (mins)	Height	ng/mL or ug
DIAZINON	5.93	22360	19.80758
MALATHION	6.79	14155	20.41220



ABC Laboratories, Inc.

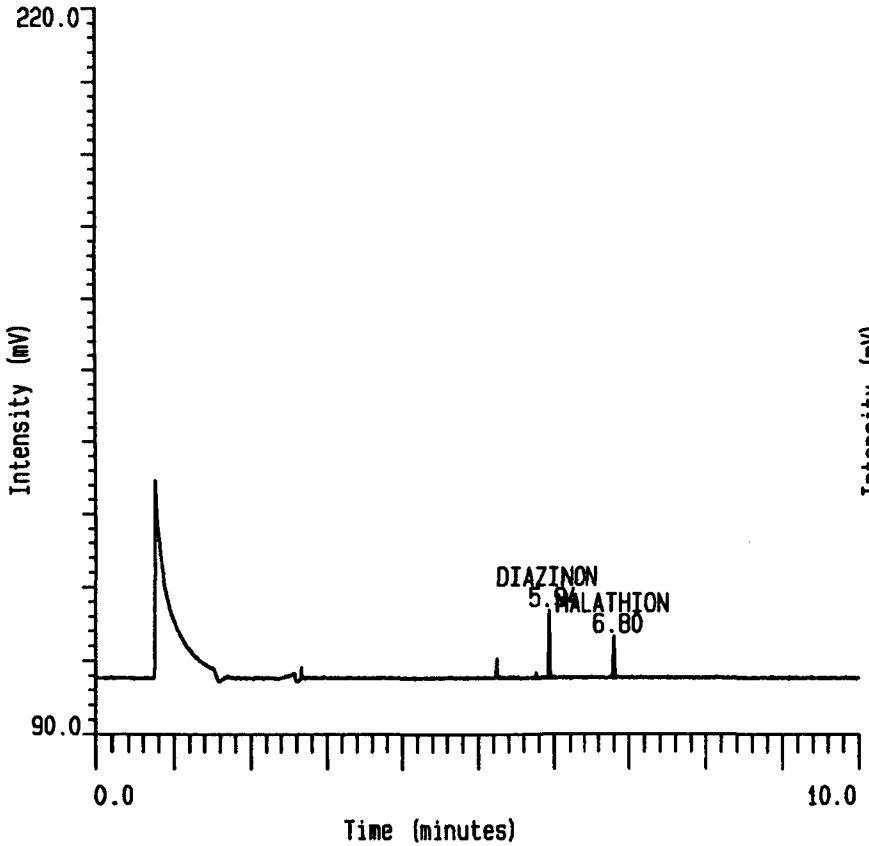
MCPP ver 2.3

43767 XAD Air Tubes Set 1 LOW LEVEL REPEATED AGAIN

Date of Report: 19 JUL 97 at 13:33:32

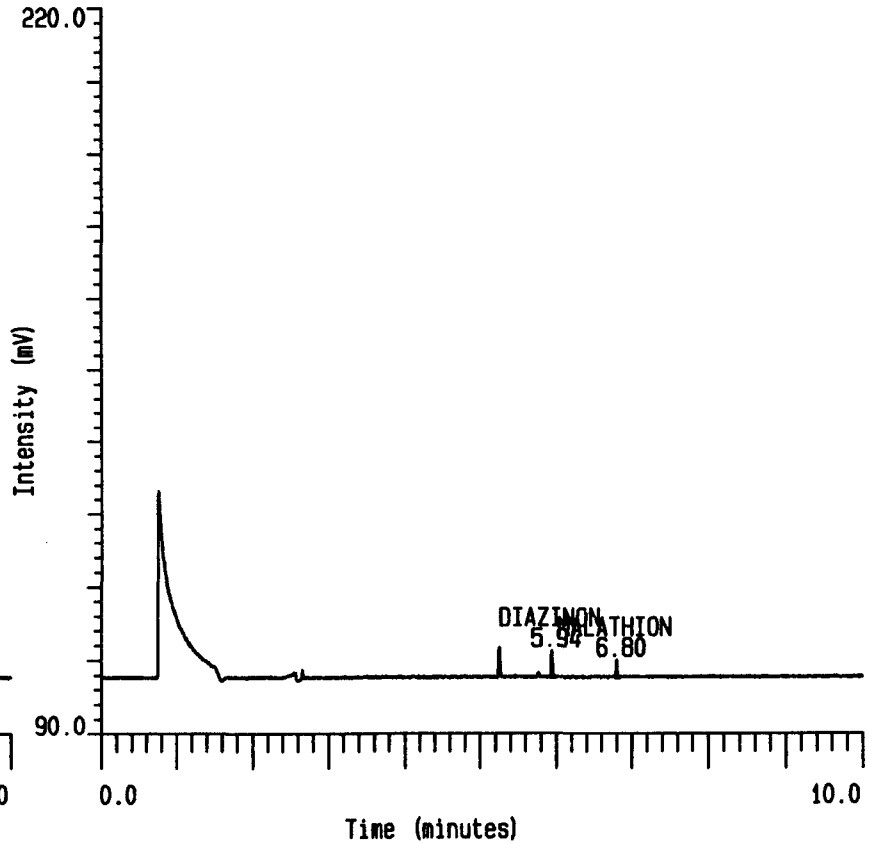
MCDO [43767] 29 767XAD6,9,1
GCMIX-5 NOMINAL 10 ng/mL
Acquired on 19-Jul-1997 at 00:48

Peak Name	RT (mins)	Height	ng/mL or ug
DIAZINON	5.94	12088	10.43161
MALATHION	6.80	7432	10.38039



MCDO [43767] 29 767XAD6,10,1
GCMIX-6 NOMINAL 4 ng/mL
Acquired on 19-Jul-1997 at 01:08

Peak Name	RT (mins)	Height	ng/mL or ug
DIAZINON	5.94	4790	3.77042
MALATHION	6.80	3126	3.95390



[43767] 29 767XAD6 Page 1
Reported on 21-JUL-1997 at 08:07
Modified on 19-JUL-1997 at 13:01

List Calibration File

CALIBRATION HEADER INFORMATION

Calibration Title : 43767 XAD Air Tubes Set 1 LOW LEVEL REPEATED AGAIN
General :
Calibration type..... External standard
Units..... ng/mL or ug
Calibration base..... Height
Reference Peak Identification :
Reference window..... 5.0 %
Minimum window..... 0.50 mins
Peak threshold..... 0.0 %
Uncalibrated Peaks Response Factor :
Response factor source..... User set response factor
Response factor..... 0.0000
Additional Information :
Source library..... None
Initialise on 1st standard..... No
Variation tolerance..... 100.00 %
Calibrant Peak Identification :
Calibrant window..... 0.10 mins
Calibrant threshold..... 0.0 %
Response Factor Calibration Curve :
Curve fit..... Linear
Force through zero..... No
X transformation..... None
Y transformation..... None
Weighting..... 1 / Y
Retention Value Calibration Curve :
Curve fit..... Linear
Force through zero..... No
X transformation..... None
Y transformation..... None
Weighting..... None
Timed Calibration Curve :
Curve fit..... Linear
Force through zero..... No
X transformation..... None
Y transformation..... None
Weighting..... None
No group information entered.

[43767] 29 767XAD6 Page 2
Reported on 21-JUL-1997 at 08:07
Modified on 19-JUL-1997 at 13:01

Peak name : DIAZINON
Expected retention time : 5.94 mins (RT range : 5.89 - 5.99 mins)

Peak window mode..... Global
Group name identifier..... ----
Peak identification mode..... Largest
Must peak..... No
Reference peak..... No
Dilution peak..... No
Retention standard..... No
Response factor mode..... Internal Levels
Purity..... 100.0000

Calibration level	Standard amount	Response factor	Calibration count
06	3.9700	1206.4310	1
05	9.9200	1218.5177	1
04	19.8000	1129.3049	1
03	39.7000	1137.3739	1
02	59.5000	1075.8522	1
01	99.2000	1108.3112	1

Peak name : MALATHION
Expected retention time : 6.78 mins (RT range : 6.73 - 6.83 mins)

Peak window mode..... Global
Group name identifier..... ----
Peak identification mode..... Largest
Must peak..... No
Reference peak..... No
Dilution peak..... No
Retention standard..... No
Response factor mode..... Internal Levels
Purity..... 100.0000

Calibration level	Standard amount	Response factor	Calibration count
06	4.0800	766.2302	1
05	10.2000	728.6763	1
04	20.4000	693.8547	1
03	40.8000	711.5629	1
02	61.2000	654.5135	1
01	102.0000	677.4697	1

Attachment 8. Validation Data for Facial/Neck Wipe Method ARTF-AM-010

Summary Results for C18 Neck Wipe Method Validation - Diazinon
Reference Multichrom files C18NWMV1 and C18NWMV2

Sample ID	Sample Description	Diazinon Fortification Level (ug/gauze wipe)	Diazinon Recovery (ug/gauze wipe)	% Recovery
43767-147	Control Neck Wipe	NA	Not Detected	
43767-148	Control + nominal 1 ug each	1.00	0.935	93.5%
43767-149	Control + nominal 1 ug each	1.00	0.961	96.1%
43767-150	Control + nominal 10 ug each	10.0	8.80	88.0%
43767-151	Control + nominal 10 ug each	10.0	9.20	92.0%
43767-152	Control + nominal 1000 ug each	1000	848	84.8%
43767-153	Control + nominal 1000 ug each	1000	841	84.1%
43767-154	Control Neck Wipe	NA	Not Detected	
43767-155	Control + nominal 1 ug each	1.00	1.05	105%
43767-156	Control + nominal 1 ug each	1.00	1.03	103%
43767-157	Control + nominal 10 ug each	10.0	8.98	89.8%
43767-158	Control + nominal 10 ug each	10.0	9.31	93.1%
43767-159	Control + nominal 1000 ug each	1000	873	87.3%
43767-160	Control + nominal 1000 ug each	1000	904	90.4%
			Average % Recovery (n=12)	92.3%
			Standard Deviation (n=12)	6.53%
			Avg. + 2 Std. Dev.	105%
			Avg. - 2 Std. Dev.	79.2%

Prepared by: 29 Oct 97

Checked by: 2-12-98

Summary Results for C18 Neck Wipe Method Validation - Malathion
Reference Multichrom files C18NWMV1 and C18NWMV2

Sample ID	Sample Description	Malathion Fortification Level (ug/gauze wipe)	Malathion Recovery (ug/gauze wipe)	% Recovery
43767-147	Control Neck Wipe	NA	Not Detected	
43767-148	Control + nominal 1 ug each	1.00	1.05	105%
43767-149	Control + nominal 1 ug each	1.00	1.07	107%
43767-150	Control + nominal 10 ug each	10.0	9.95	99.5%
43767-151	Control + nominal 10 ug each	10.0	9.94	99.4%
43767-152	Control + nominal 1000 ug each	1000	769	76.9%
43767-153	Control + nominal 1000 ug each	1000	754	75.4%
43767-154	Control Neck Wipe	NA	Not Detected	
43767-155	Control + nominal 1 ug each	1.00	1.21	121%
43767-156	Control + nominal 1 ug each	1.00	1.14	114%
43767-157	Control + nominal 10 ug each	10.0	9.25	92.5%
43767-158	Control + nominal 10 ug each	10.0	9.77	97.7%
43767-159	Control + nominal 1000 ug each	1000	789	78.9%
43767-160	Control + nominal 1000 ug each	1000	880	88.0%
			Average % Recovery (n=12)	96.3%
			Standard Deviation (n=12)	14.6%
			Avg. + 2 Std. Dev.	126%
			Avg. - 2 Std. Dev.	67.1%

Prepared by: 290ct97

Checked by: 2-12-98

Observations and Remarks

Test Material: Diazinon and Malathion Study Sponsor: ARTF Matrices: Various Study Number: 43767	Form AC72A (5/4/93) ABC Laboratories, Inc. 7200 E. ABC Lane Columbia, MO 65202
Modifications to Hand Wash Method ARTF-AM-006 for neck wipe validation	Study Director: Loren C. Schrier

COMMENTS

The method validation performed on the neck wipe samples was performed using the hand wash method ARTF-AM-006 with the following exceptions:

Neck wipe samples were wetted with 8 mL 0.01% AOT and fortified in 0.25 gal glass jars, then extracted with 500 mL of 0.01% AOT aqueous solution by shaking for 15 min. This time was based on the acetone extraction time required for the original face/neck wipe method ARTF-AM-005. Ten milliliter aliquots were then removed for C18 cleanup as per modified hand wash method.

There was no hexane preconditioning or wash of the C18 column.

The elution solvent was determined to be 8 mL of 50:50 DCM:MeOH in preliminary column profile work.

Forty-five minutes was used as the drying time for the columns.

The final volume was 2.00 mL instead of 2.50 listed in the original hand wash method.

Entered by: _____ Date: 9 Mar 98

Checked by: _____ Date: 9 Mar 98

Approved by: _____ Date: 9 Mar 98

SAMPLE TRACKING FORM

Customer Name: ARTF	Study Director: Loren C. Schrier	Test Material: Diazinon and Malathion	
ARTF Protocol: ARF003	ABC Study Number: 43767	C18 Neck Wipe Method Validation Set 1	Matrix: Neck Wipes

Sample Prep (1) ~~(Section II.D.1)~~ JEB 27Oct97	C-18RP Column Cleanup (1) ~~(Section II.D.2)~~ JEB 27Oct97	GC/FPD Analysis (1) ~~(Section II. E.)~~ JEB 27Oct97	Chromatography review: 29Oct97
			Spreadsheet entry by: 29Oct97
			Fortified by: JEB 27Oct97
			Witnessed by: 27Oct97

ABC Lab Number	Sample Identification	Extraction 0.01% AOT Volume	Sample Volume for Cleanup	Eluent 50:50 DCM:MeOH Volume	Final Volume and Dilutions	
43767-147	Control Neck Wipe	500 mL	10.0 mL	8 mL	2.00 mL	
43767-148	Control + nominal 1 ug Each	500 mL	10.0 mL	8 mL	2.00 mL	Fortify with 0.100 mL of 10.0 ug/mL mixed fortification solution (2Mix-F2)
43767-149	Control + nominal 1 ug Each	500 mL	10.0 mL	8 mL	2.00 mL	Fortify with 0.100 mL of 10.0 ug/mL mixed fortification solution (2Mix-F2)
43767-150	Control + nominal 10 ug Each	500 mL	10.0 mL	8 mL	5.00 mL	Fortify with 1.00 mL of 10.0 ug/mL mixed fortification solution (2Mix-F2)
43767-151	Control + nominal 10 ug Each	500 mL	10.0 mL	8 mL	5.00 mL	Fortify with 1.00 mL of 10.0 ug/mL mixed fortification solution (2Mix-F2)
43767-152	Control + nominal 1000 ug Each	500 mL	10.0 mL	8 mL	15.0 mL, then dilute 0.50 mL to 10.5 mL	Fortify with 1.00 mL of 1000 ug/mL mixed fortification solution (2Mix-B2)
43767-153	Control + nominal 1000 ug Each	500 mL	10.0 mL	8 mL	15.0 mL, then dilute 0.50 mL to 10.5 mL	Fortify with 1.00 mL of 1000 ug/mL mixed fortification solution (2Mix-B2)

Remarks: (1) Form Error. See QR dated 9Mar98. 9Mar98

Methylene Chloride: BtS lot BN794

Acetone: BtS lot BQ210

Methanol: BtS lot BP026

Aerosol OT Solution (75% w/w Aqueous), Fisher, Lot Number 963392

Water: Labconco DI

C-18 column: Varian #071340

Checked by: 2-12-98

Approved by: 12Feb98

[43767] 29 C18NWMV1
Reported on 28-OCT-1997 at 07:58
Modified on 27-OCT-1997 at 16:17

JEB

List Run Sequence File

ANALYST NAME..... LOREN C. SCHRIER
43767 C18 NECK WIPE METHOD VALIDATION 1

ANALYSIS INFORMATION

Analysis name..... C18NWMV1
Method name..... C18NWMV1
Calibration name..... C18NWMV1
Calibration sequence..... Average Standard
User parameter 1 name..... FINAL VOLUME (ML)
User parameter 2 name..... FACTOR 1
User parameter 3 name..... FACTOR 2

SAMPLE SUMMARY

SAMPLE NUMBER	LIMS ID	SAMPLE NAME
1	----------	EQUILIBRATION
2	----------	EQUILIBRATION
3	----------	SOLVENT BLANK
4	----------	GCMIX-G2 100 NG/ML STD
5	----------	GCMIX-G3 60.0 NG/ML STD
6	----------	43767-147 CONTROL
7	----------	43767-148 CONTROL + 1 UG EACH
8	----------	43767-149 CONTROL + 1 UG EACH
9	----------	GCMIX-G4 40.0 NG/ML STD
10	----------	43767-150 CONTROL + 10 UG EACH
11	----------	43767-151 CONTROL + 10 UG EACH
12	----------	GCMIX-G5 20.0 NG/ML STD
13	----------	43767-152 CONTROL + 1000 UG EACH
14	----------	43767-153 CONTROL + 1000 UG EACH
15	----------	GCMIX-G6 10.0 NG/ML STD
16	----------	GCMIX-H7 4.00 NG/ML STD

[43767] 29 C18NWMV1 Page 2
Reported on 28-OCT-1997 at 07:58
Modified on 27-OCT-1997 at 16:17

SAMPLE INFORMATION

SAMPLE NUMBER	TYPE	CALIB LEVEL	UPDATE RT	UPDATE RF	AMOUNT	NUM INJ	BOT NUM
1	Sa	--	-	-	1.00000	1	1
2	Sa	--	-	-	1.00000	1	2
3	Sa	--	-	-	1.00000	1	3
4	St	01	N	I	1.00000	1	4
5	St	02	N	I	1.00000	1	5
6	Sa	--	-	-	1.00000	1	6
7	Sa	--	-	-	1.00000	1	7
8	Sa	--	-	-	1.00000	1	8
9	St	03	N	I	1.00000	1	9
10	Sa	--	-	-	1.00000	1	10
11	Sa	--	-	-	1.00000	1	11
12	St	04	N	I	1.00000	1	12
13	Sa	--	-	-	1.00000	1	13
14	Sa	--	-	-	1.00000	1	14
15	St	05	N	I	1.00000	1	15
16	St	06	N	I	1.00000	1	16

USER PARAMETER VALUES

SAMPLE	FINAL VOLUME (ML)	FACTOR 1	FACTOR 2
1	1.00000	1.00000	1.00000
2	1.00000	1.00000	1.00000
3	2.00000	500.00000	10000.00000
4	1.00000	1.00000	1.00000
5	1.00000	1.00000	1.00000
6	2.00000	500.00000	10000.00000
7	2.00000	500.00000	10000.00000
8	2.00000	500.00000	10000.00000
9	1.00000	1.00000	1.00000
10	5.00000	500.00000	10000.00000
11	5.00000	500.00000	10000.00000
12	1.00000	1.00000	1.00000
13	15.00000	5250.00000	5000.00000
14	15.00000	5250.00000	5000.00000
15	1.00000	1.00000	1.00000
16	1.00000	1.00000	1.00000

[43767] 29 C18NWMV1 Page 3
Reported on 28-OCT-1997 at 07:58
Modified on 27-OCT-1997 at 16:17

INTERNAL/DILUTION STANDARDS

SAMPLE NUMBER	ISTD1 AMOUNT	ISTD2 AMOUNT	ISTD3 AMOUNT	DIL1 AMOUNT	DIL2 AMOUNT
1	1.00000	1.00000	1.00000	1.00000	1.00000
2	1.00000	1.00000	1.00000	1.00000	1.00000
3	1.00000	1.00000	1.00000	1.00000	1.00000
4	1.00000	1.00000	1.00000	1.00000	1.00000
5	1.00000	1.00000	1.00000	1.00000	1.00000
6	1.00000	1.00000	1.00000	1.00000	1.00000
7	1.00000	1.00000	1.00000	1.00000	1.00000
8	1.00000	1.00000	1.00000	1.00000	1.00000
9	1.00000	1.00000	1.00000	1.00000	1.00000
10	1.00000	1.00000	1.00000	1.00000	1.00000
11	1.00000	1.00000	1.00000	1.00000	1.00000
12	1.00000	1.00000	1.00000	1.00000	1.00000
13	1.00000	1.00000	1.00000	1.00000	1.00000
14	1.00000	1.00000	1.00000	1.00000	1.00000
15	1.00000	1.00000	1.00000	1.00000	1.00000
16	1.00000	1.00000	1.00000	1.00000	1.00000

PROCESSING ORDER

SAMPLE NUMBER	TYPE
4	Standard
5	Standard
9	Standard
12	Standard
15	Standard
16	Standard
1	Sample
2	Sample
3	Sample
6	Sample
7	Sample
8	Sample
10	Sample
11	Sample
13	Sample
14	Sample

Gas Chromatographic Instrument Parameters Form
Multichrom Channel 29

ABC Laboratory Study Number: 43767
Customer Identification: ARTF

Instrument: HP 5890 Series II Material ID# 1625-1063
Autoinjector: HP 7673B Material ID# 1625-802A

Column: HP-5MS, 30 M X 0.25 mm, 0.25 μm film thickness
Serial#: 57105214
Detector Type: FPD/P

Electrometer: Range 4

Temperatures:
- Injector (°C): 230
- Detector (°C): 230
- Column:
  - Initial Temp.(°C): 95
  - Initial Time: 1.0 min.
  - Program Rate 1: 30 °C/min to 230 °C, hold 4 min
  - Program Rate 2: 40 °C/min to 290 °C, hold 4 min

Carrier Gas Flow Rate:	He	2.2 mL/min
Septum Purge:	He	2.0 mL/min
Make Up Gas:	N_2	28 mL/min
Air Flow Rate:		95 mL/min.
Hydrogen Flow Rate:		78 mL/min.
Purge Valve:	Off at 0 min, on at 0.75 min	

Injection Volume: 2 μL

Run Sequence File: 29 C18~~A~~IVNIV1 (I) N

Quantitation Standards: GCMIX-G2→GCMIX-G6 Inclusive, GCMIX-H7

Prepared By: [signature] Date: 27 Oct 97

Checked By: [signature] Date: 2-12-98

(I)(E) [signature] 2-12-98

MCDO [43767] 29 C18NWMV1

ABC Laboratories, Inc.
Sample Information Report ver 3.3

Report Date: 29 OCT 97 at 09:42:37
Page 1

Sample Name	No.	Type	Level	User Parameter 1 FINAL VOLUME (ML)	User Parameter 2 FACTOR 1	User Parameter 3 FACTOR 2
EQUILIBRATION	1	SA		1.00000	1.00000	1.00000
EQUILIBRATION	2	SA		1.00000	1.00000	1.00000
SOLVENT BLANK	3	SA		2.00000	500.00000	10000.00000
GCMIX-G2 100 NG/ML STD	4	ST	01	1.00000	1.00000	1.00000
GCMIX-G3 60.0 NG/ML STD	5	ST	02	1.00000	1.00000	1.00000
43767-147 CONTROL	6	SA		2.00000	500.00000	10000.00000
43767-148 CONTROL + 1 UG EACH	7	SA		2.00000	500.00000	10000.00000
43767-149 CONTROL + 1 UG EACH	8	SA		2.00000	500.00000	10000.00000
GCMIX-G4 40.0 NG/ML STD	9	ST	03	1.00000	1.00000	1.00000
43767-150 CONTROL + 10 UG EACH	10	SA		5.00000	500.00000	10000.00000
43767-151 CONTROL + 10 UG EACH	11	SA		5.00000	500.00000	10000.00000
GCMIX-G5 20.0 NG/ML STD	12	ST	04	1.00000	1.00000	1.00000
43767-152 CONTROL + 1000 UG EACH	13	SA		15.00000	5250.00000	5000.00000
43767-153 CONTROL + 1000 UG EACH	14	SA		15.00000	5250.00000	5000.00000
GCMIX-G6 10.0 NG/ML STD	15	ST	05	1.00000	1.00000	1.00000
GCMIX-H7 4.00 NG/ML STD	16	ST	06	1.00000	1.00000	1.00000

MCDO [43767] 29 C18NWMV1

ABC Laboratories, Inc.
Results Information Report ver 3.3
Component Name: DIAZINON

Report Date: 29 OCT 97
Time: 09:42:37
Page: 1

Sample Name	SMP #	INJ #	RT(mins)	Height	ng/mL or ug	CAL. RANG	Peak Type	Bad INJ
EQUILIBRATION	1	1	5.41	7298	7.75077		OB	---
EQUILIBRATION	2	1	5.40	9004	9.58301		OB	---
SOLVENT BLANK	3	1	0.00	0	0.00000	UNDR	O	---
GCMIX-G2 100 NG/ML STD	4	1	5.40	95406	102.35741		B	---
GCMIX-G3 60.0 NG/ML STD	5	1	5.40	53954	57.84768		OB	---
43767-147 CONTROL	6	1	0.00	0	0.00000	UNDR	OB	---
43767-148 CONTROL + 1 UG EACH	7	1	5.41	8785	0.93480		O	---
43767-149 CONTROL + 1 UG EACH	8	1	5.40	9027	0.96072		OBF	---
GCMIX-G4 40.0 NG/ML STD	9	1	5.40	37373	40.04432		OB	---
43767-150 CONTROL + 10 UG EACH	10	1	5.41	32869	8.80201		OB	---
43767-151 CONTROL + 10 UG EACH	11	1	5.41	34342	9.19736		OBF	---
GCMIX-G5 20.0 NG/ML STD	12	1	5.40	18494	19.77295		OB	---
43767-152 CONTROL + 1000 UG EACH	13	1	5.40	50225	848.04773		OB	---
43767-153 CONTROL + 1000 UG EACH	14	1	5.41	49834	841.42871		OB	---
GCMIX-G6 10.0 NG/ML STD	15	1	5.41	9415	10.02450		OB	---
GCMIX-H7 4.00 NG/ML STD	16	1	5.39	3890	4.09209		BF	---

MCDO [43767] 29 C18NWMV1

ABC Laboratories, Inc.
Results Information Report ver 3.3
Component Name: MALATHION

Report Date: 29 OCT 97
Time: 09:42:37
Page: 1

Sample Name	SMP #	INJ #	RT(mins)	Height	ng/mL or ug	CAL. RANG	Peak Type	Bad INJ
EQUILIBRATION	1	1	6.11	4908	8.97319		OB	---
EQUILIBRATION	2	1	6.09	6002	10.93640		OB	---
SOLVENT BLANK	3	1	0.00	0	0.00000	UNDR		---
GCMIX-G2 100 NG/ML STD	4	1	6.10	57965	104.17831		OB	---
GCMIX-G3 60.0 NG/ML STD	5	1	6.09	33487	60.25491		OB	---
43767-147 CONTROL	6	1	0.00	0	0.00000	UNDR	OBF	---
43767-148 CONTROL + 1 UG EACH	7	1	6.10	5753	1.04886		B	---
43767-149 CONTROL + 1 UG EACH	8	1	6.09	5870	1.07001		OB	---
GCMIX-G4 40.0 NG/ML STD	9	1	6.09	20533	37.01041		B	---
43767-150 CONTROL + 10 UG EACH	10	1	6.10	22086	9.94946		B	---
43767-151 CONTROL + 10 UG EACH	11	1	6.10	22066	9.94036		B	---
GCMIX-G5 20.0 NG/ML STD	12	1	6.09	9798	17.74789		B	---
43767-152 CONTROL + 1000 UG EACH	13	1	6.09	27126	769.24597		B	---
43767-153 CONTROL + 1000 UG EACH	14	1	6.10	26596	754.28400		OB	---
GCMIX-G6 10.0 NG/ML STD	15	1	6.09	6418	11.68246		B	---
GCMIX-H7 4.00 NG/ML STD	16	1	6.08	2177	4.07318			---

Acquisition and Peak Processing Parameters Report Print Date and Time : 29 OCT 97 09:47:58
Version 2 Page : 1
MCDO [43767] 29 C18NWMV1 Based on Sample Number : 1 Injection Number : 1

ACQUISITION PARAMETERS
Data Collection :
Length of Run..... 14.99 mins
Post Injection Delay..... 0.00 mins
Sampling Rate..... 15.00 Hz
Baseline Offset :
Adjust Baseline..... Yes
Baseline Offset..... 10.00 %

PEAK PROCESSING PARAMETERS
Auto Process Parameters :
Peak Threshold..... 2.00
Baseline Test..... 4
Peak Trend..... 4
Separation Parameters :
Shoulder Sensitivity..... 0.10
Rider Sensitivity..... 0.05
Rejection Parameters :
Minimum Peak Width..... 0.00 secs
Minimum Peak Height..... 500.00 uV
Minimum Peak Area..... 0.00 uVs
Ignore Flat Top Peak..... No
User Imposed Action Control :
Forced Baseline..... No
Suppress Integration..... Yes
Tangent Skimming..... No
Shoulder Detection..... No
Data Bunching..... No
Negative Detection..... No
Integration Modes :
Retention Time Integration..... No
Square Root Area and Height..... No

PROCESSING ACTIONS

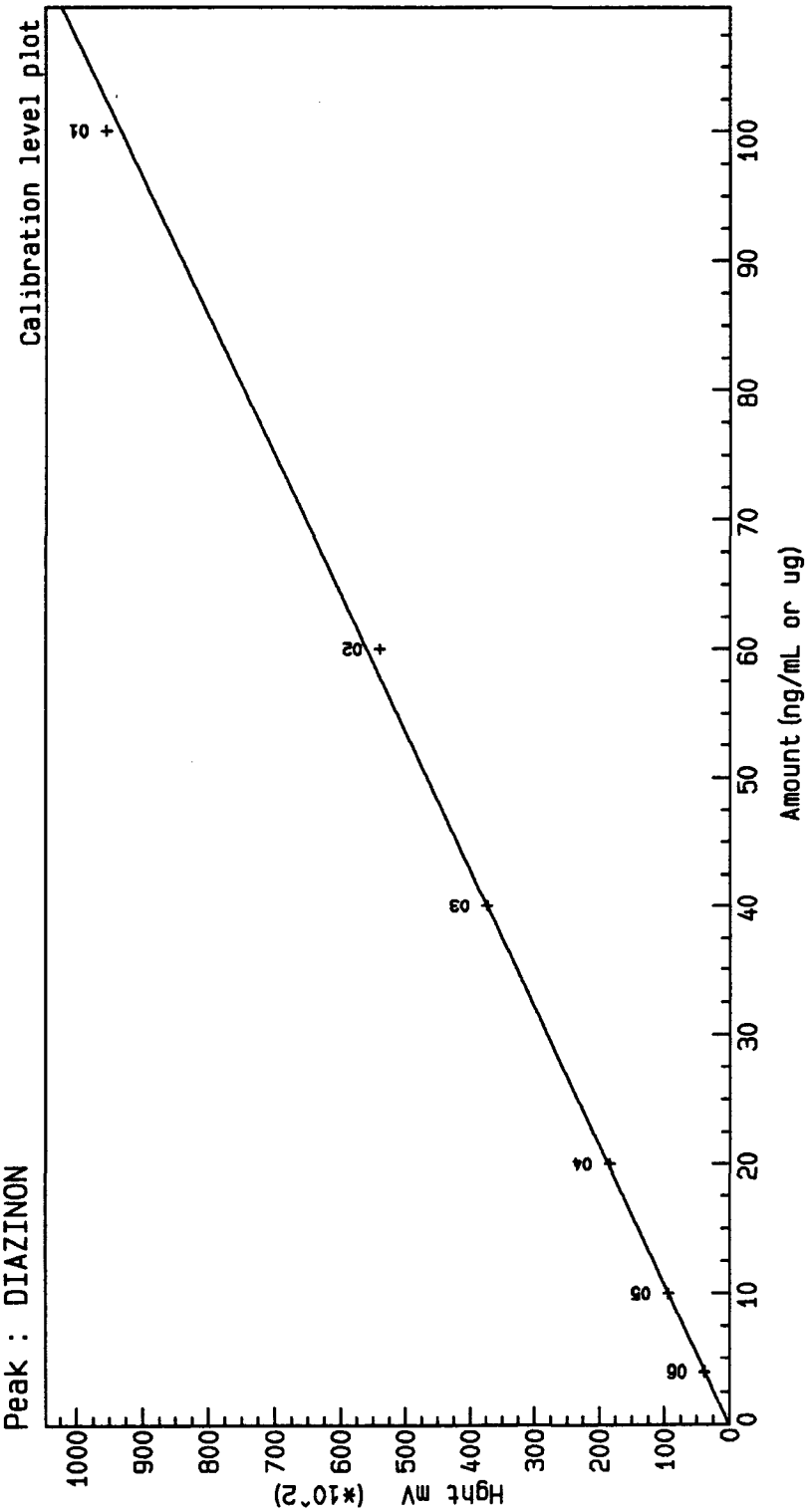
Time (mins)	Force Baseline	Integrate Suppress	Tangent Skim	Bunch Size	Shoulder Detect	Negative Detect
0.00	--	SI	_	0	--	--
5.00	--	ES	_	0	--	--
5.60	--	SI	_	0	--	--
6.00	--	ES	_	0	--	--
6.20	--	SI	_	0	--	--

Calibration last modified on 29-Oct-1997 at 09:36
Calibration Sequence..... AVERAGE

These parameters apply to all injections of set C18NWMV1 with no exceptions

ABC Laboratories, Inc. Multichrom ver 1.8-2

Calibration Name : 29 C18NWMV1.
43767 C18 NECK WIPE METHOD VALIDATION SET 1
Peak : DIAZINON



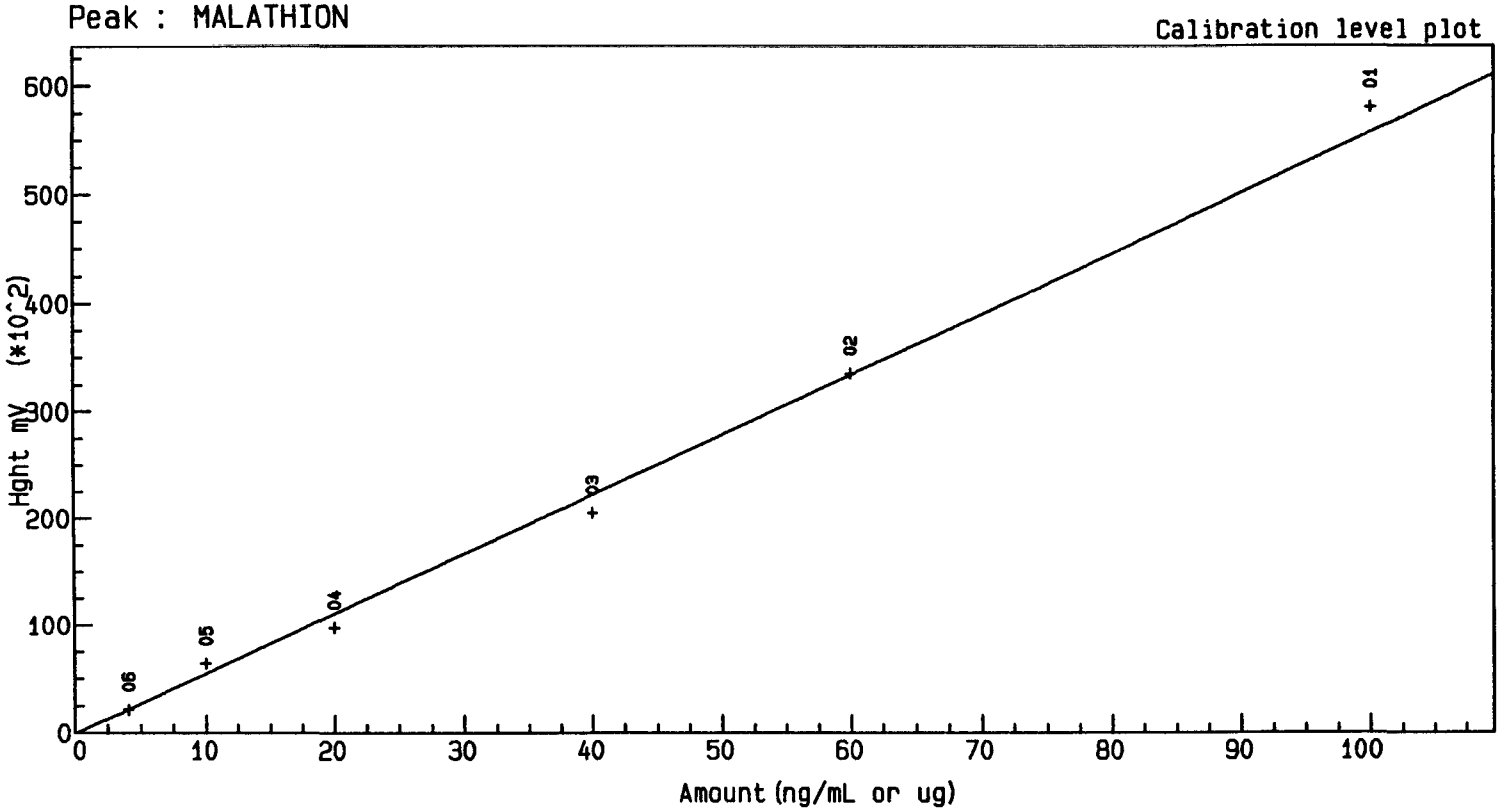
Constant : 7.92685E+1
1st degree : 9.31313E+2

Curve fit : Linear
Correlation coefficient : 0.99925
Standard error : 1.49101E+3

Reported on 29-OCT-1997 at 09:48

ABC Laboratories, Inc. Multichrom ver 1.8-2

Calibration Name : 29 C18NWMV1.
43767 C18 NECK WIPE METHOD VALIDATION SET 1
Peak : MALATHION



Constant : -9.248768E+1
1st degree : 5.57285E+2

Curve fit : Linear
Correlation coefficient : 0.99758
Standard error : 1.63354E+3

Reported on 29-OCT-1997 at 09:48

ABC Laboratories, Inc.

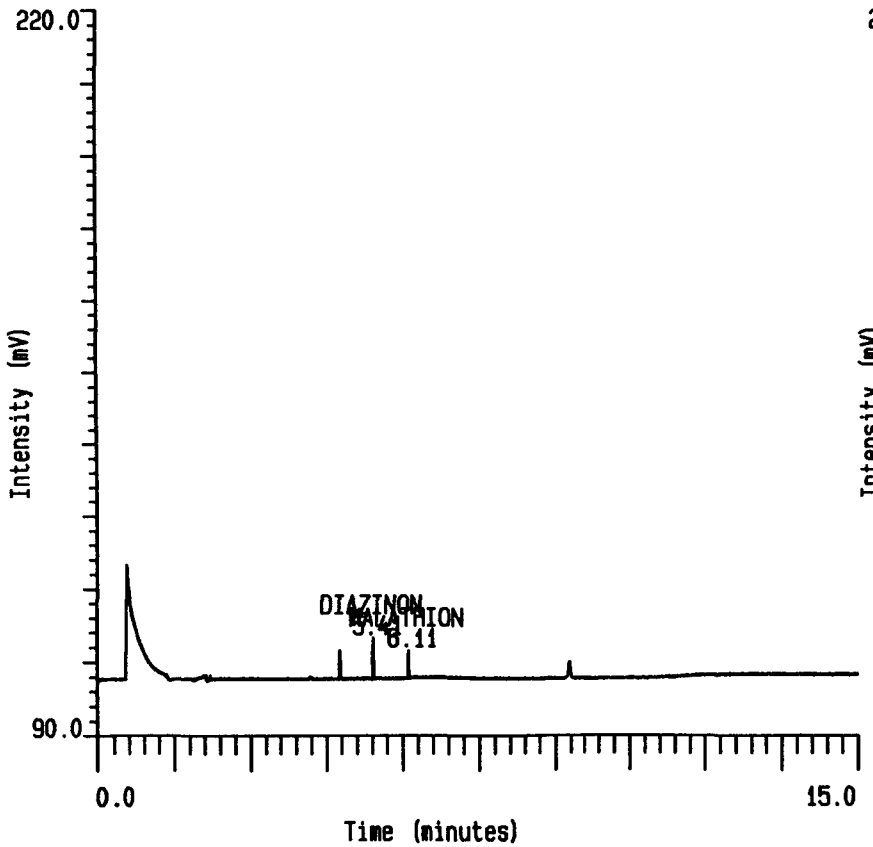
MCPP ver 2.3

43767 C18 NECK WIPE METHOD VALIDATION 1

Date of Report: 29 OCT 97 at 09:49:10

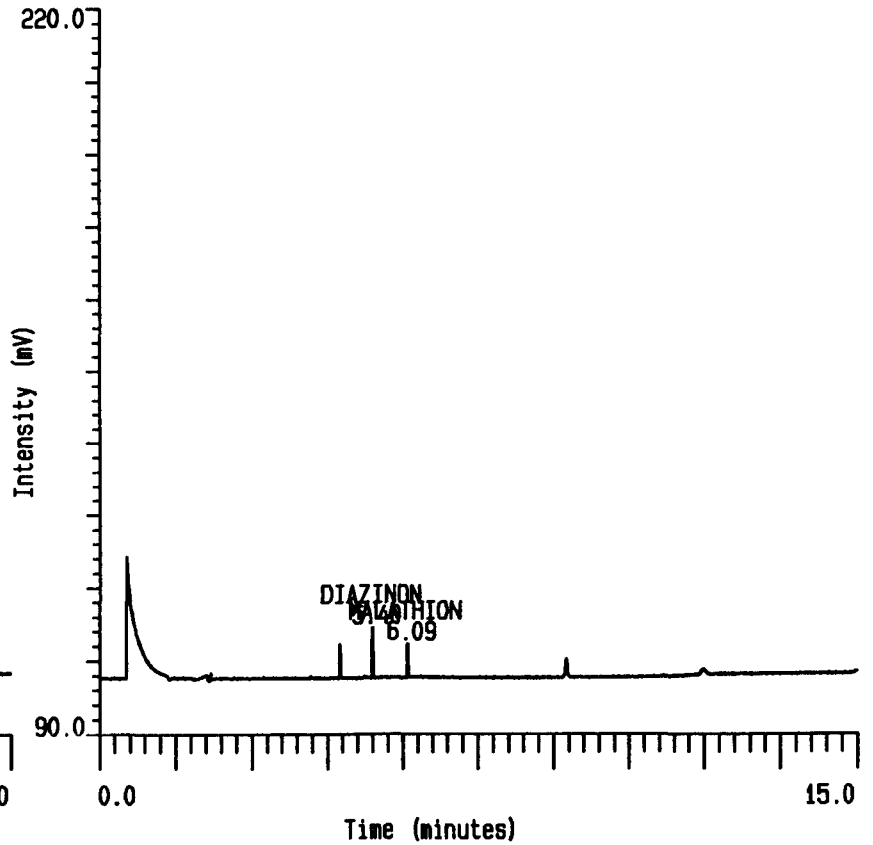
MCDO [43767] 29 C18NWMV1,1,1
EQUILIBRATION
Acquired on 27-Oct-1997 at 16:47

Peak Name	RT (mins)	Height	ng/mL or ug
DIAZINON	5.41	7298	7.75077
MALATHION	6.11	4908	8.97319



MCDO [43767] 29 C18NWMV1,2,1
EQUILIBRATION
Acquired on 27-Oct-1997 at 17:07

Peak Name	RT (mins)	Height	ng/mL or ug
DIAZINON	5.40	9004	9.58301
MALATHION	6.09	6002	10.93640



ABC Laboratories, Inc.

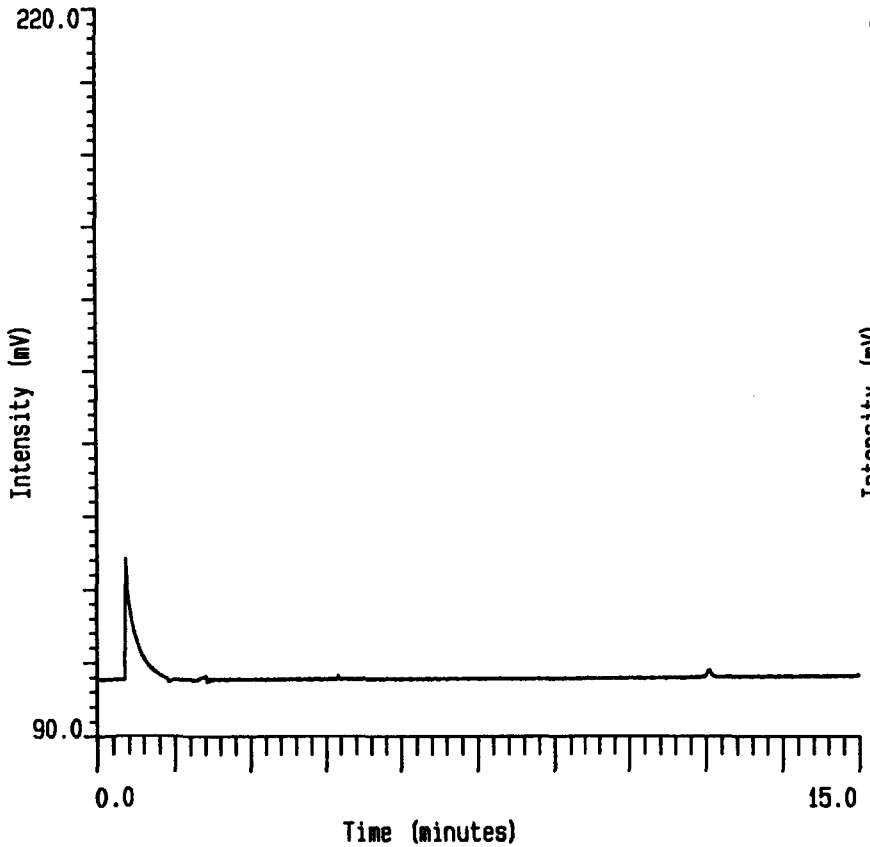
MCPP ver 2.3

43767 C18 NECK WIPE METHOD VALIDATION 1

Date of Report: 29 OCT 97 at 09:49:10

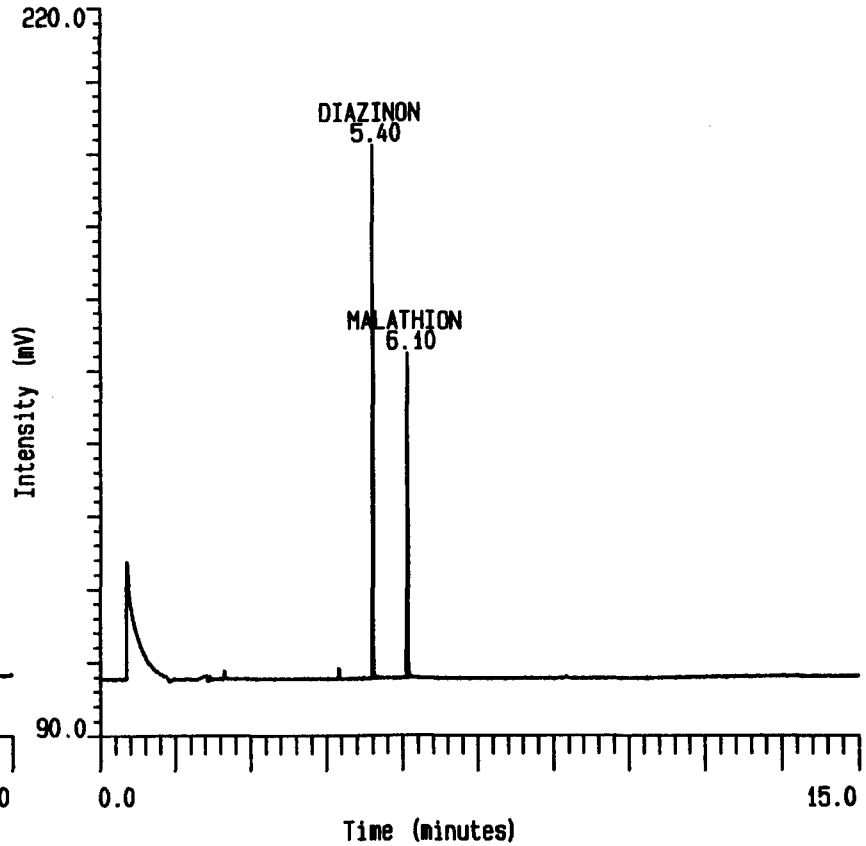
MCDO [43767] 29 C18NWMV1,3,1
SOLVENT BLANK
Acquired on 27-Oct-1997 at 17:28

Peak Name	RT (mins)	Height	ng/mL or ug
DIAZINON	0.00	0	0
MALATHION	0.00	0	0



MCDO [43767] 29 C18NWMV1,4,1
GCMIX-G2 100 NG/ML STD
Acquired on 27-Oct-1997 at 17:48

Peak Name	RT (mins)	Height	ng/mL or ug
DIAZINON	5.40	95406	102.35741
MALATHION	6.10	57965	104.17831



ABC Laboratories, Inc.

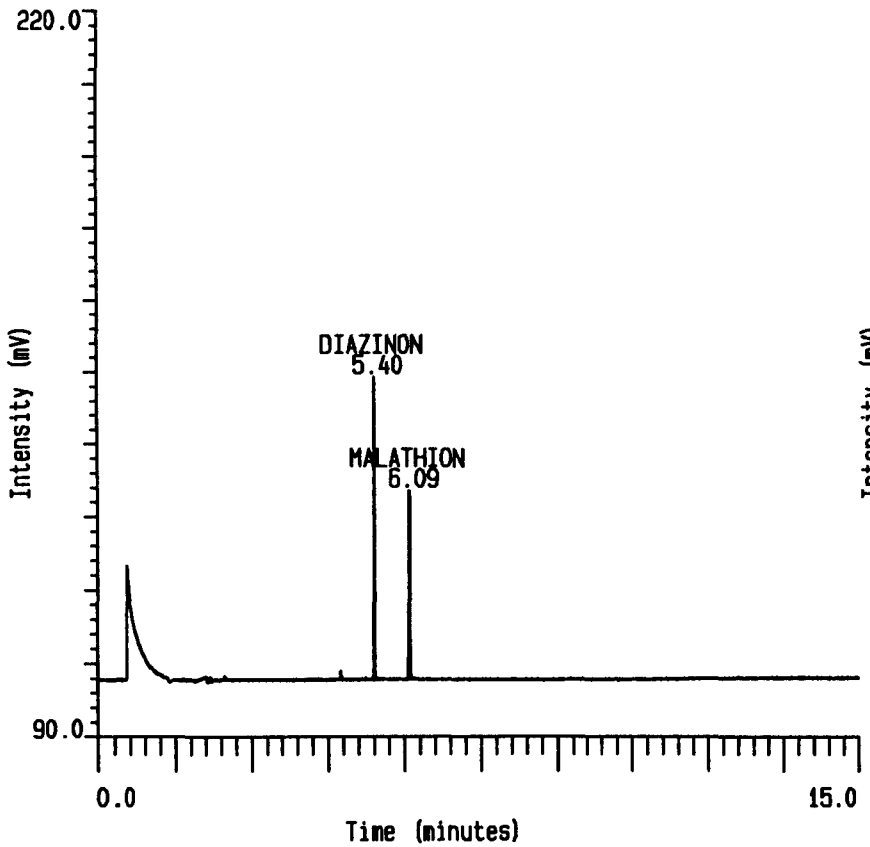
MCPP ver 2.3

43767 C18 NECK WIPE METHOD VALIDATION 1

Date of Report: 29 OCT 97 at 09:49:10

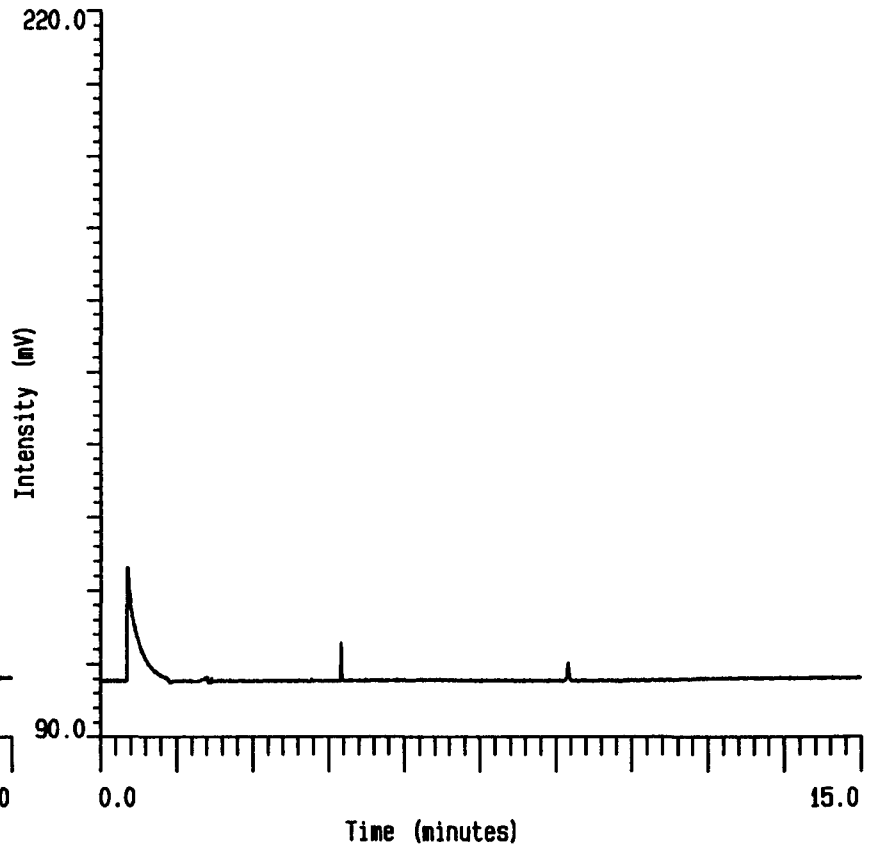
MCDO [43767] 29 C18NWMV1,5,1
GCMIX-G3 60.0 NG/ML STD
Acquired on 27-Oct-1997 at 18:08

Peak Name	RT (mins)	Height	ng/mL or ug
DIAZINON	5.40	53954	57.84768
MALATHION	6.09	33487	60.25491



MCDO [43767] 29 C18NWMV1,6,1
43767-147 CONTROL
Acquired on 27-Oct-1997 at 18:28

Peak Name	RT (mins)	Height	ng/mL or ug
DIAZINON	0.00	0	0
MALATHION	0.00	0	0



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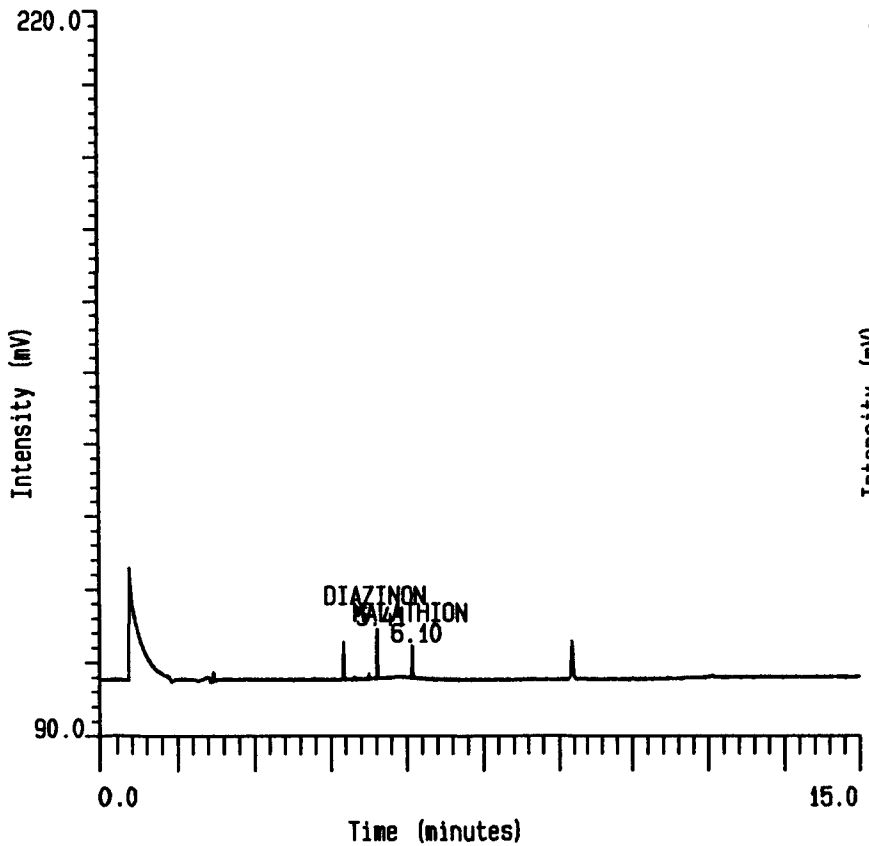
MCPP ver 2.3

43767 C18 NECK WIPE METHOD VALIDATION 1

Date of Report: 29 OCT 97 at 09:49:10

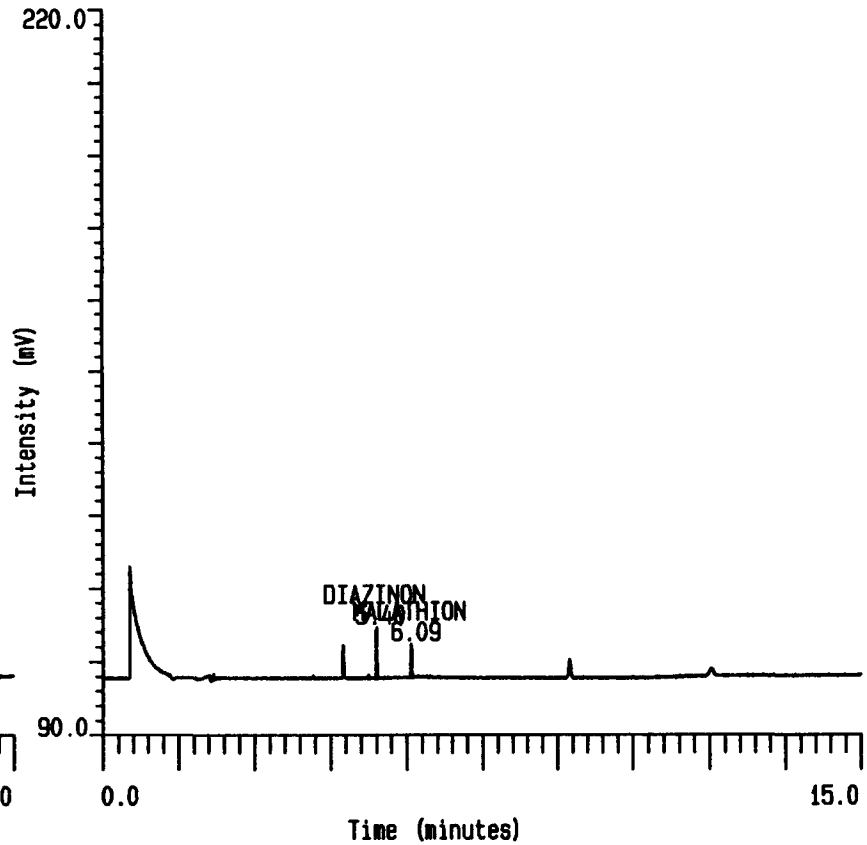
MCDO [43767] 29 C18NWMV1,7,1
43767-148 CONTROL + 1 UG EACH
Acquired on 27-Oct-1997 at 18:48

Peak Name	RT (mins)	Height	ng/mL or ug
DIAZINON	5.41	8785	0.93480
MALATHION	6.10	5753	1.04886



MCDO [43767] 29 C18NWMV1,8,1
43767-149 CONTROL + 1 UG EACH
Acquired on 27-Oct-1997 at 19:08

Peak Name	RT (mins)	Height	ng/mL or ug
DIAZINON	5.40	9027	0.96072
MALATHION	6.09	5870	1.07001



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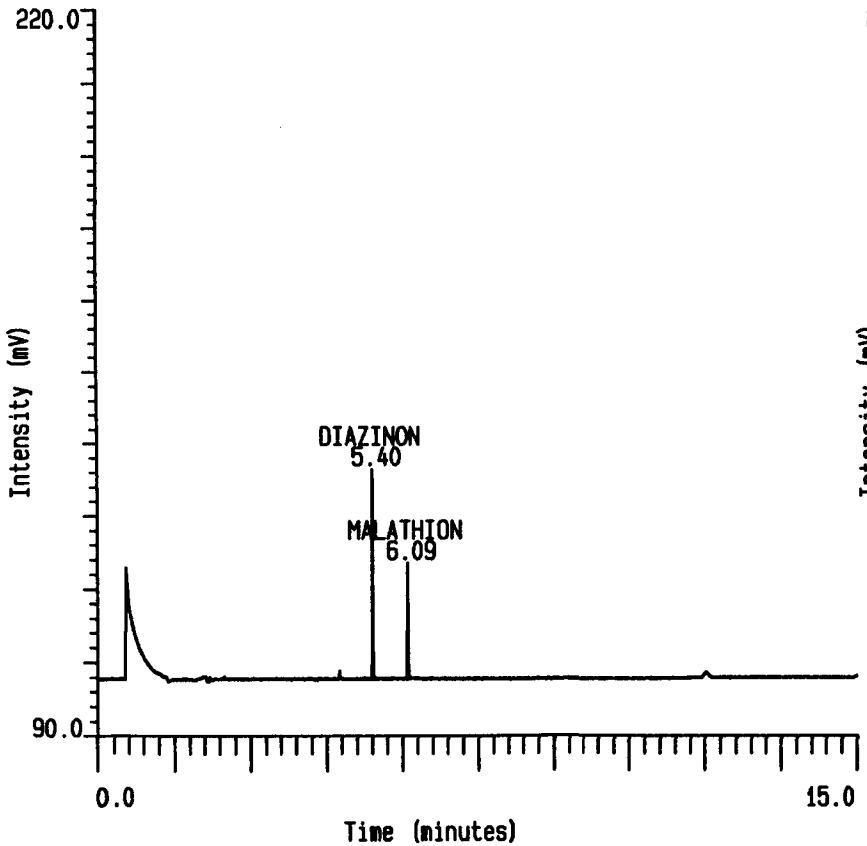
MCPP ver 2.3

43767 C18 NECK WIPE METHOD VALIDATION 1

Date of Report: 29 OCT 97 at 09:49:10

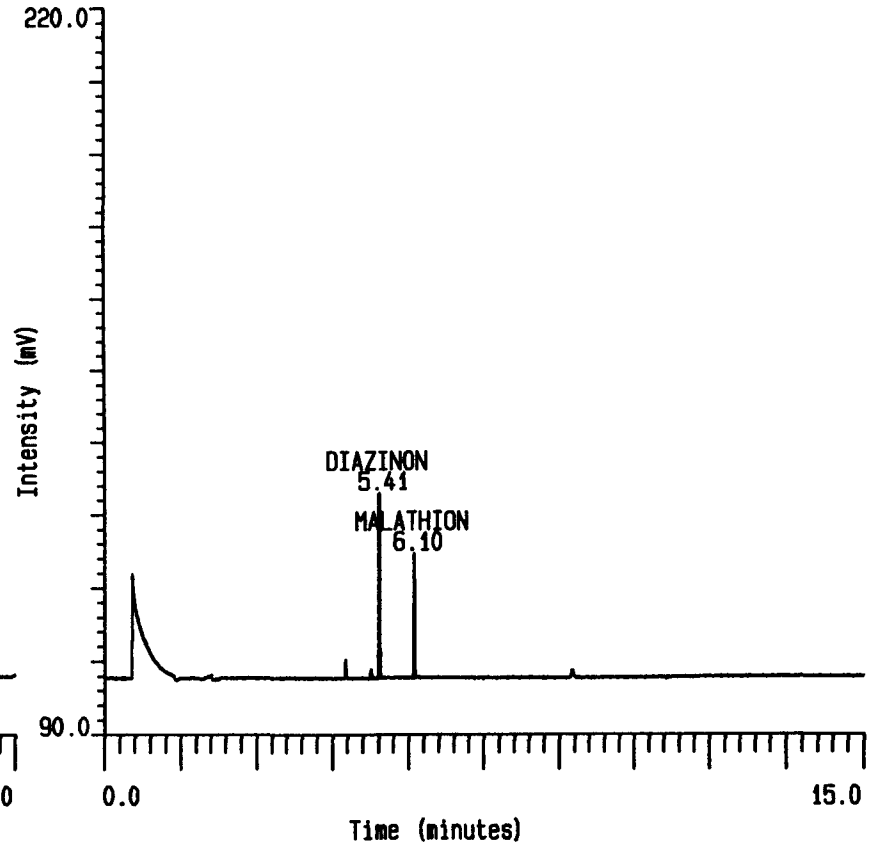
MCDO [43767] 29 C18NWMV1,9,1
GCMIX-G4 40.0 NG/ML STD
Acquired on 27-Oct-1997 at 19:28

Peak Name	RT (mins)	Height	ng/mL or ug
DIAZINON	5.40	37373	40.04432
MALATHION	6.09	20533	37.01041



MCDO [43767] 29 C18NWMV1,10,1
43767-150 CONTROL + 10 UG EACH
Acquired on 27-Oct-1997 at 19:49

Peak Name	RT (mins)	Height	ng/mL or ug
DIAZINON	5.41	32869	8.80201
MALATHION	6.10	22086	9.94946



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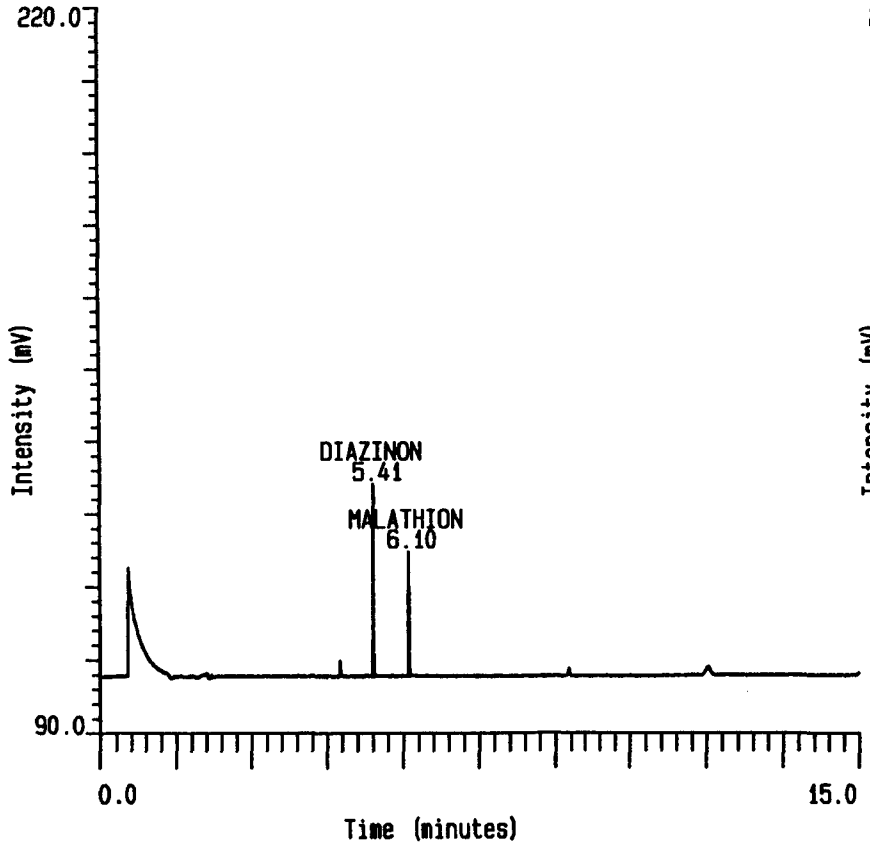
MCPP ver 2.3

43767 C18 NECK WIPE METHOD VALIDATION 1

Date of Report: 29 OCT 97 at 09:49:10

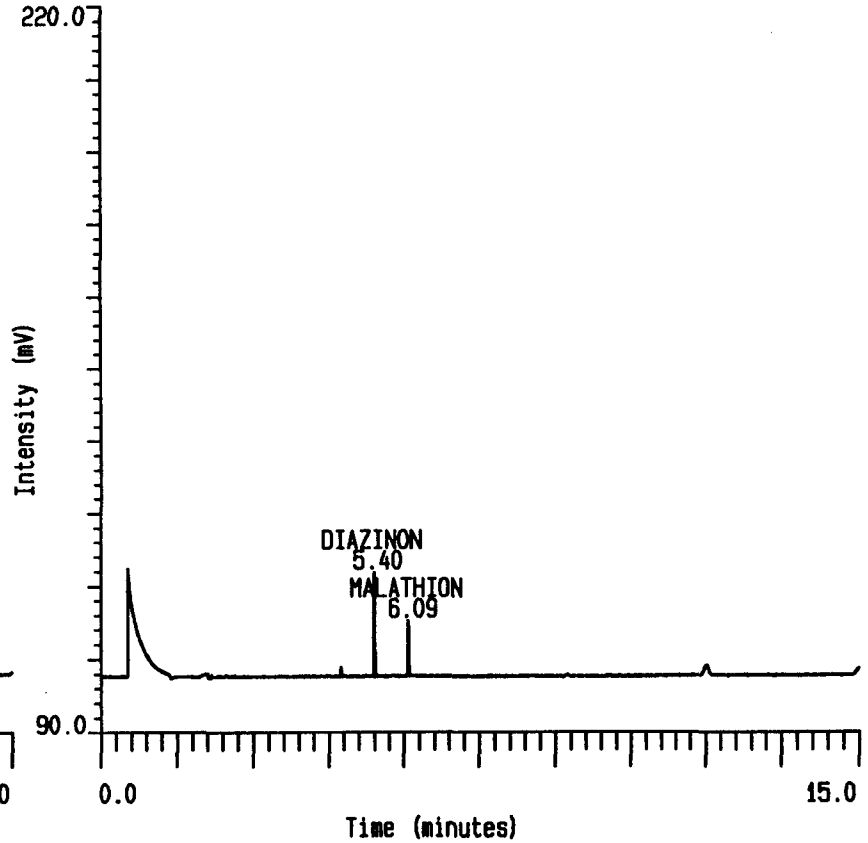
MCDO [43767] 29 C18NWMV1,11,1
43767-151 CONTROL + 10 UG EACH
Acquired on 27-Oct-1997 at 20:09

Peak Name	RT (mins)	Height	ng/mL or ug
DIAZINON	5.41	34342	9.19736
MALATHION	6.10	22066	9.94036



MCDO [43767] 29 C18NWMV1,12,1
GCMIX-G5 20.0 NG/ML STD
Acquired on 27-Oct-1997 at 20:29

Peak Name	RT (mins)	Height	ng/mL or ug
DIAZINON	5.40	18494	19.77295
MALATHION	6.09	9798	17.74789



ABC Laboratories, Inc.

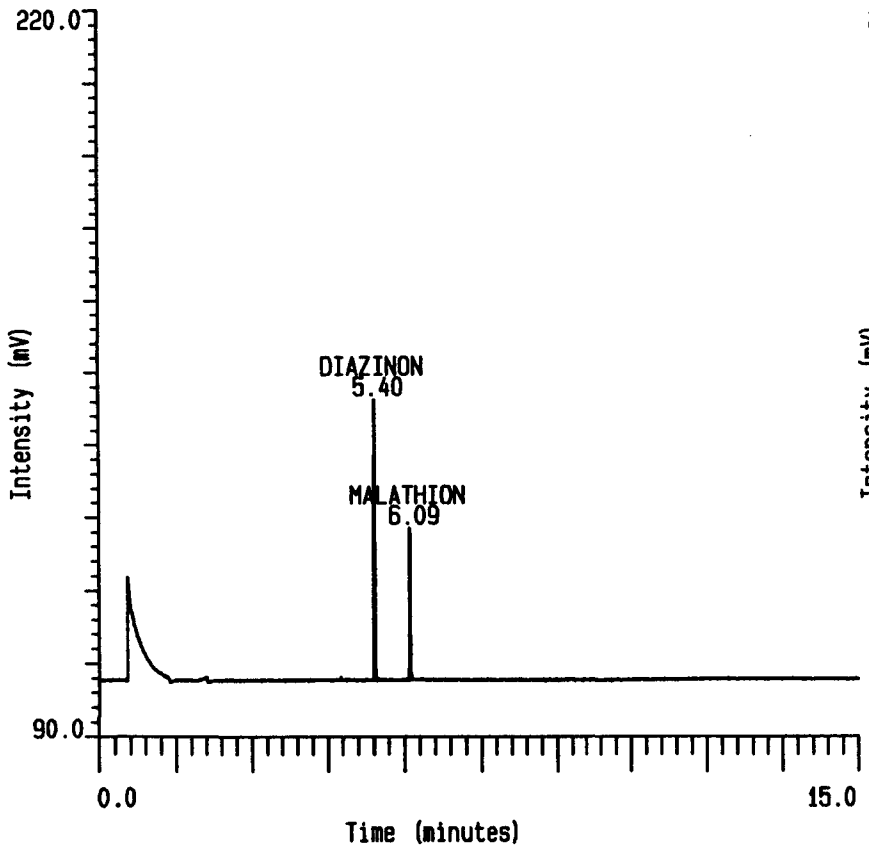
MCPP ver 2.3

43767 C18 NECK WIPE METHOD VALIDATION 1

Date of Report: 29 OCT 97 at 09:49:10

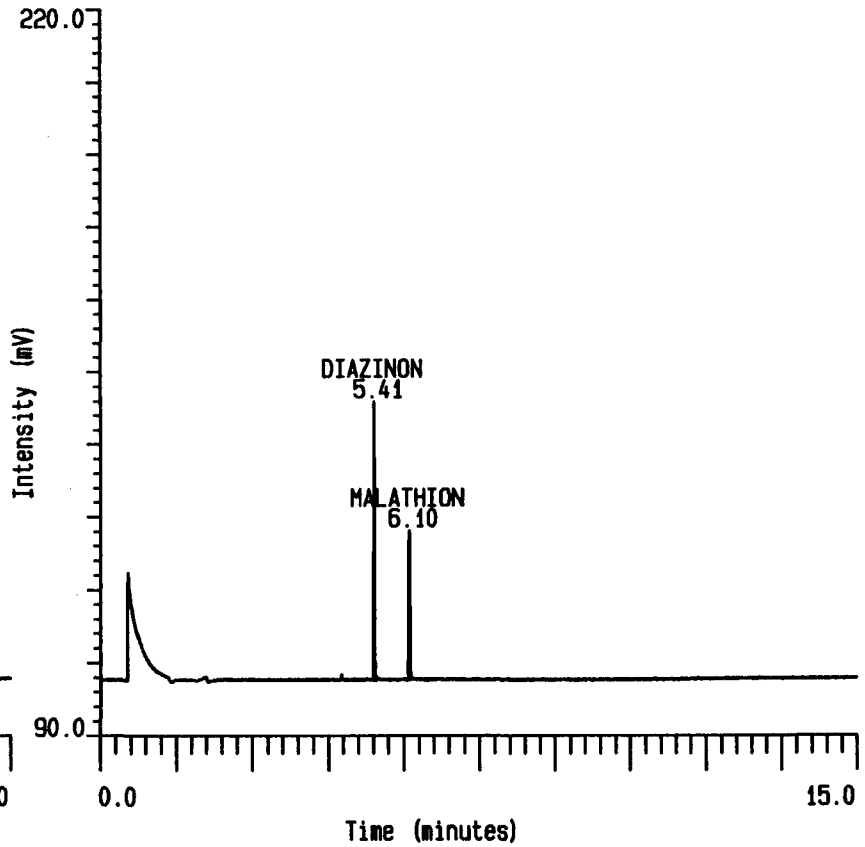
MCDO [43767] 29 C18NWMV1, 13, 1
43767-152 CONTROL + 1000 UG EACH
Acquired on 27-Oct-1997 at 20:49

Peak Name	RT (mins)	Height	ng/mL or ug
DIAZINON	5.40	50225	848.04773
MALATHION	6.09	27126	769.24597



MCDO [43767] 29 C18NWMV1, 14, 1
43767-153 CONTROL + 1000 UG EACH
Acquired on 27-Oct-1997 at 21:09

Peak Name	RT (mins)	Height	ng/mL or ug
DIAZINON	5.41	49834	841.42871
MALATHION	6.10	26596	754.28400



ABC Laboratories, Inc.

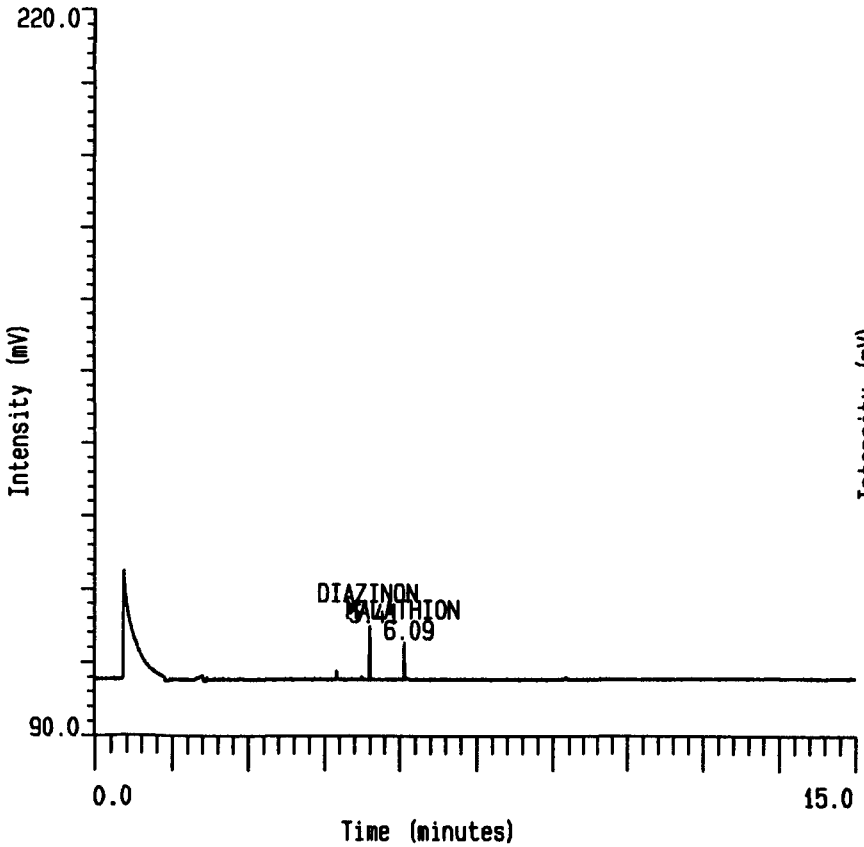
MCPP ver 2.3

43767 C18 NECK WIPE METHOD VALIDATION 1

Date of Report: 29 OCT 97 at 09:49:10

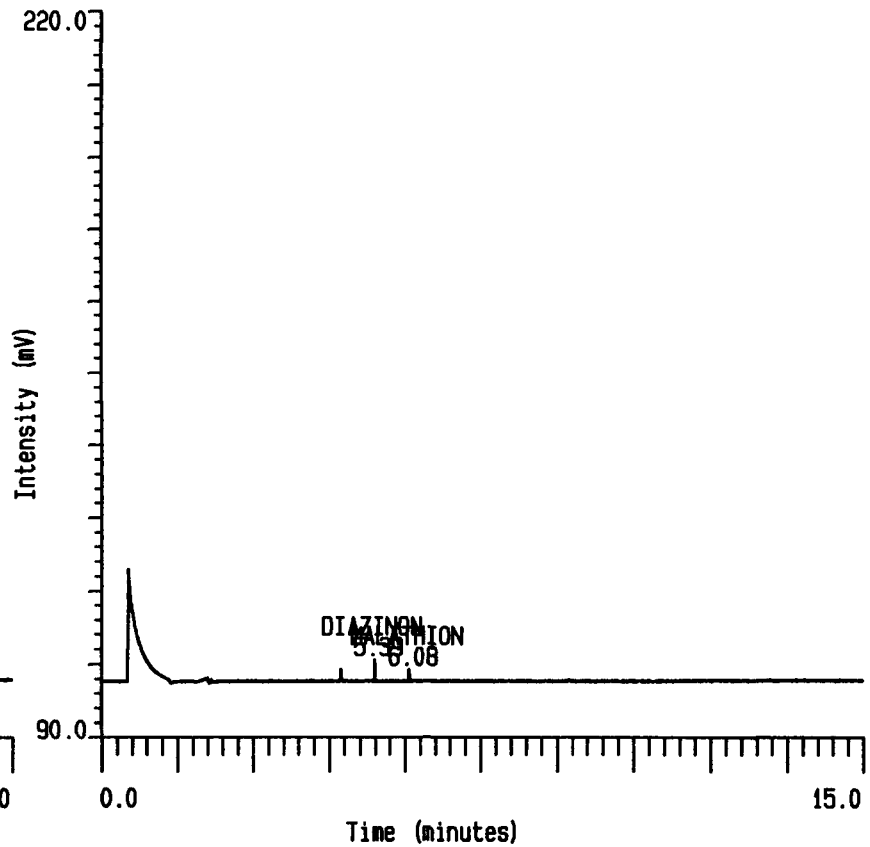
MCDO [43767] 29 C18NWMV1, 15, 1
GCMIX-G6 10.0 NG/ML STD
Acquired on 27-Oct-1997 at 21:29

Peak Name	RT (mins)	Height	ng/mL or ug
DIAZINON	5.41	9415	10.02450
MALATHION	6.09	6418	11.68246



MCDO [43767] 29 C18NWMV1, 16, 1
GCMIX-H7 4.00 NG/ML STD
Acquired on 27-Oct-1997 at 21:49

Peak Name	RT (mins)	Height	ng/mL or ug
DIAZINON	5.39	3890	4.09209
MALATHION	6.08	2177	4.07318



[43767] 29 C18NWMV1 Page 1
Reported on 30-OCT-1997 at 09:56
Modified on 29-OCT-1997 at 09:36

List Calibration File

CALIBRATION HEADER INFORMATION

Calibration Title : 43767 C18 NECK WIPE METHOD VALIDATION SET 1
General :
Calibration type..... External standard
Units..... ng/mL or ug
Calibration base..... Height
Reference Peak Identification :
Reference window..... 5.0 %
Minimum window..... 0.50 mins
Peak threshold..... 0.0 %
Uncalibrated Peaks Response Factor :
Response factor source..... User set response factor
Response factor..... 0.0000
Additional Information :
Source library..... None
Initialise on 1st standard..... No
Variation tolerance..... 100.00 %
Calibrant Peak Identification :
Calibrant window..... 0.20 mins
Calibrant threshold..... 0.0 %
Response Factor Calibration Curve :
Curve fit..... Linear
Force through zero..... No
X transformation..... None
Y transformation..... None
Weighting..... 1 / Y
Retention Value Calibration Curve :
Curve fit..... Linear
Force through zero..... No
X transformation..... None
Y transformation..... None
Weighting..... None
Timed Calibration Curve :
Curve fit..... Linear
Force through zero..... No
X transformation..... None
Y transformation..... None
Weighting..... None
No group information entered.

[43767] 29 C18NWMV1 Page 2
Reported on 30-OCT-1997 at 09:56
Modified on 29-OCT-1997 at 09:36

Peak name : DIAZINON
Expected retention time : 5.42 mins (RT range : 5.32 - 5.52 mins)
Peak window mode..... Global
Group name identifier..... ----
Peak identification mode..... Largest
Must peak..... No
Reference peak..... No
Dilution peak..... No
Retention standard..... No
Response factor mode..... Internal Levels
Purity..... 100.0000

Calibration level	Standard amount	Response factor	Calibration count
06	4.0000	972.5709	1
05	10.0000	941.5217	1
04	20.0000	924.7035	1
03	40.0000	934.3265	1
02	60.0000	899.2258	1
01	100.0000	954.0604	1

Peak name : MALATHION
Expected retention time : 6.11 mins (RT range : 6.01 - 6.21 mins)
Peak window mode..... Global
Group name identifier..... ----
Peak identification mode..... Largest
Must peak..... No
Reference peak..... No
Dilution peak..... No
Retention standard..... No
Response factor mode..... Internal Levels
Purity..... 100.0000

Calibration level	Standard amount	Response factor	Calibration count
06	4.0000	544.3580	1
05	10.0000	641.7975	1
04	20.0000	489.9073	1
03	40.0000	513.3215	1
02	60.0000	558.1112	1
01	100.0000	579.6453	1

SAMPLE TRACKING FORM

Customer Name: ARTF	Study Director: Loren C. Schrier	Test Material: Diazinon and Malathion	
ARTF Protocol: ARF003	ABC Study Number: 43767	C18 Neck Wipe Method Validation Set 2	Matrix: Neck Wipes

Sample Prep (Section II.D.1)	C-18RP Column Cleanup (Section II.D.2)		GC/FPD Analysis (Section II. E.)	Chromatography review:
JEB 28Oct97	JEB 28Oct97		JEB 28Oct97	29Oct97
				Spreadsheet entry by: 29Oct97

ABC Lab Number	Sample Identification	Extraction 0.01% AOT Volume	Sample Volume for Cleanup	Eluent 50:50 DCM:MeOH Volume	Final Volume and Dilutions	Fortified by: JEB 28Oct97 Witnessed by: 28Oct97
43767-154	Control Neck Wipe	500 mL	10.0 mL	8 mL	2.00 mL	
43767-155	Control + nominal 1 ug Each	500 mL	10.0 mL	8 mL	2.00 mL	Fortify with 0.100 mL of 10.0 ug/mL mixed fortification solution (2Mix-F2)
43767-156	Control + nominal 1 ug Each	500 mL	10.0 mL	8 mL	2.00 mL	Fortify with 0.100 mL of 10.0 ug/mL mixed fortification solution (2Mix-F2)
43767-157	Control + nominal 10 ug Each	500 mL	10.0 mL	8 mL	5.00 mL	Fortify with 1.00 mL of 10.0 ug/mL mixed fortification solution (2Mix-F2)
43767-158	Control + nominal 10 ug Each	500 mL	10.0 mL	8 mL	5.00 mL	Fortify with 1.00 mL of 10.0 ug/mL mixed fortification solution (2Mix-F2)
43767-159	Control + nominal 1000 ug Each	500 mL	10.0 mL	8 mL	15.0 mL, then dilute 0.50 mL to 10.5 mL	Fortify with 1.00 mL of 1000 ug/mL mixed fortification solution (2Mix-B2)
43767-160	Control + nominal 1000 ug Each	500 mL	10.0 mL	8 mL	15.0 mL, then dilute 0.50 mL to 10.5 mL	Fortify with 1.00 mL of 1000 ug/mL mixed fortification solution (2Mix-B2)

Remarks:

Methylene Chloride: B+J lot BN794

Acetone: B+J lot BQ210

Methanol: B+J Lot BP026

Aerosol OT Solution (75% w/w Aqueous), Fisher, Lot Number 963392

Water: Labconco DI

C-18 column: Varian #071340

Checked by: 2-12-98

Approved by: 12 Feb 98

[43767] 29 C18NWMV2
Reported on 29-OCT-1997 at 07:49
Modified on 28-OCT-1997 at 09:56

SEB

Page 1

List Run Sequence File

ANALYST NAME..... LOREN C. SCHRIER
43767 C18 NECK WIPE METHOD VALIDATION 2

ANALYSIS INFORMATION

Analysis name..... C18NWMV2
Method name..... C18NWMV2
Calibration name..... C18NWMV2
Calibration sequence..... Average Standard
User parameter 1 name..... FINAL VOLUME (ML)
User parameter 2 name..... FACTOR 1
User parameter 3 name..... FACTOR 2

SAMPLE SUMMARY

SAMPLE NUMBER	LIMS ID	SAMPLE NAME
1	----------	EQUILIBRATION
2	----------	EQUILIBRATION
3	----------	SOLVENT BLANK
4	----------	GCMIX-G2 100 NG/ML STD
5	----------	GCMIX-G3 60.0 NG/ML STD
6	----------	43767-154 CONTROL
7	----------	43767-155 CONTROL + 1 UG EACH
8	----------	43767-156 CONTROL + 1 UG EACH
9	----------	GCMIX-G4 40.0 NG/ML STD
10	----------	43767-157 CONTROL + 10 UG EACH
11	----------	43767-158 CONTROL + 10 UG EACH
12	----------	GCMIX-G5 20.0 NG/ML STD
13	----------	43767-159 CONTROL + 1000 UG EACH
14	----------	43767-160 CONTROL + 1000 UG EACH
15	----------	GCMIX-G6 10.0 NG/ML STD
16	----------	GCMIX-H7 4.00 NG/ML STD

[43767] 29 C18NWMV2 Page 2
Reported on 29-OCT-1997 at 07:49
Modified on 28-OCT-1997 at 09:56

SAMPLE INFORMATION

SAMPLE NUMBER	TYPE	CALIB LEVEL	UPDATE RT	UPDATE RF	AMOUNT	NUM INJ	BOT NUM
1	Sa	--	-	-	1.00000	1	1
2	Sa	--	-	-	1.00000	1	2
3	Sa	--	-	-	1.00000	1	3
4	St	01	N	I	1.00000	1	4
5	St	02	N	I	1.00000	1	5
6	Sa	--	-	-	1.00000	1	6
7	Sa	--	-	-	1.00000	1	7
8	Sa	--	-	-	1.00000	1	8
9	St	03	N	I	1.00000	1	9
10	Sa	--	-	-	1.00000	1	10
11	Sa	--	-	-	1.00000	1	11
12	St	04	N	I	1.00000	1	12
13	Sa	--	-	-	1.00000	1	13
14	Sa	--	-	-	1.00000	1	14
15	St	05	N	I	1.00000	1	15
16	St	06	N	I	1.00000	1	16

USER PARAMETER VALUES

SAMPLE	FINAL VOLUME (ML)	FACTOR 1	FACTOR 2
1	1.00000	1.00000	1.00000
2	1.00000	1.00000	1.00000
3	2.00000	500.00000	10000.00000
4	1.00000	1.00000	1.00000
5	1.00000	1.00000	1.00000
6	2.00000	500.00000	10000.00000
7	2.00000	500.00000	10000.00000
8	2.00000	500.00000	10000.00000
9	1.00000	1.00000	1.00000
10	5.00000	500.00000	10000.00000
11	5.00000	500.00000	10000.00000
12	1.00000	1.00000	1.00000
13	15.00000	5250.00000	5000.00000
14	15.00000	5250.00000	5000.00000
15	1.00000	1.00000	1.00000
16	1.00000	1.00000	1.00000

[43767] 29 C18NWMV2 Page 3
Reported on 29-OCT-1997 at 07:49
Modified on 28-OCT-1997 at 09:56

INTERNAL/DILUTION STANDARDS

SAMPLE NUMBER	ISTD1 AMOUNT	ISTD2 AMOUNT	ISTD3 AMOUNT	DIL1 AMOUNT	DIL2 AMOUNT
1	1.00000	1.00000	1.00000	1.00000	1.00000
2	1.00000	1.00000	1.00000	1.00000	1.00000
3	1.00000	1.00000	1.00000	1.00000	1.00000
4	1.00000	1.00000	1.00000	1.00000	1.00000
5	1.00000	1.00000	1.00000	1.00000	1.00000
6	1.00000	1.00000	1.00000	1.00000	1.00000
7	1.00000	1.00000	1.00000	1.00000	1.00000
8	1.00000	1.00000	1.00000	1.00000	1.00000
9	1.00000	1.00000	1.00000	1.00000	1.00000
10	1.00000	1.00000	1.00000	1.00000	1.00000
11	1.00000	1.00000	1.00000	1.00000	1.00000
12	1.00000	1.00000	1.00000	1.00000	1.00000
13	1.00000	1.00000	1.00000	1.00000	1.00000
14	1.00000	1.00000	1.00000	1.00000	1.00000
15	1.00000	1.00000	1.00000	1.00000	1.00000
16	1.00000	1.00000	1.00000	1.00000	1.00000

PROCESSING ORDER

SAMPLE NUMBER	TYPE
4	Standard
5	Standard
9	Standard
12	Standard
15	Standard
16	Standard
1	Sample
2	Sample
3	Sample
6	Sample
7	Sample
8	Sample
10	Sample
11	Sample
13	Sample
14	Sample

Gas Chromatographic Instrument Parameters Form
Multichrom Channel 29

ABC Laboratory Study Number: 43767
Customer Identification: ARTF

Instrument: HP 5890 Series II Material ID# 1625-1063
Autoinjector: HP 7673B Material ID# 1625-802A

Column: HP-5MS, 30 M X 0.25 mm, 0.25 μm film thickness
Serial#: 57105214
Detector Type: FPD/P

Electrometer: Range 4

Temperatures:
- Injector (°C): 230
- Detector (°C): 230
- Column:
  - Initial Temp.(°C): 95
  - Initial Time: 1.0 min.
  - Program Rate 1: 30 °C/min to 230 °C, hold 4 min
  - Program Rate 2: 40 °C/min to 290 °C, hold 4 min

Carrier Gas Flow Rate:	He	2.2 mL/min
Septum Purge:	He	2.0 mL/min
Make Up Gas:	N_2	28 mL/min
Air Flow Rate:		95 mL/min.
Hydrogen Flow Rate:		78 mL/min.
Purge Valve:	Off at 0 min, on at 0.75 min	

Injection Volume: 2 μL

Run Sequence File: 29 C18NWMV2

Quantitation Standards: GCMIX-G2→GCMIX-G6 Inclusive, GCMIX-H7

Prepared By: [signature] Date: 28 oct 97

Checked By: [signature] Date: 2-12-98

MCDO [43767] 29 C18NWMV2

ABC Laboratories, Inc.
Sample Information Report ver 3.3

Report Date: 29 OCT 97 at 10:11:35
Page 1

Sample Name	No.	Type	Level	User Parameter 1 FINAL VOLUME (ML)	User Parameter 2 FACTOR 1	User Parameter 3 FACTOR 2
EQUILIBRATION	1	SA		1.00000	1.00000	1.00000
EQUILIBRATION	2	SA		1.00000	1.00000	1.00000
SOLVENT BLANK	3	SA		2.00000	500.00000	10000.00000
GCMIX-G2 100 NG/ML STD	4	ST	01	1.00000	1.00000	1.00000
GCMIX-G3 60.0 NG/ML STD	5	ST	02	1.00000	1.00000	1.00000
43767-154 CONTROL	6	SA		2.00000	500.00000	10000.00000
43767-155 CONTROL + 1 UG EACH	7	SA		2.00000	500.00000	10000.00000
43767-156 CONTROL + 1 UG EACH	8	SA		2.00000	500.00000	10000.00000
GCMIX-G4 40.0 NG/ML STD	9	ST	03	1.00000	1.00000	1.00000
43767-157 CONTROL + 10 UG EACH	10	SA		5.00000	500.00000	10000.00000
43767-158 CONTROL + 10 UG EACH	11	SA		5.00000	500.00000	10000.00000
GCMIX-G5 20.0 NG/ML STD	12	ST	04	1.00000	1.00000	1.00000
43767-159 CONTROL + 1000 UG EACH	13	SA		15.00000	5250.00000	5000.00000
43767-160 CONTROL + 1000 UG EACH	14	SA		15.00000	5250.00000	5000.00000
GCMIX-G6 10.0 NG/ML STD	15	ST	05	1.00000	1.00000	1.00000
GCMIX-H7 4.00 NG/ML STD	16	ST	06	1.00000	1.00000	1.00000

MCDO [43767] 29 C18NWMV2

ABC Laboratories, Inc.
Results Information Report ver 3.3
Component Name: DIAZINON

Report Date: 29 OCT 97
Time: 10:11:35
Page: 1

Sample Name	SMP #	INJ #	RT(mins)	Height	ng/mL or ug	CAL. RANG	Peak Type	Bad INJ
EQUILIBRATION	1	1	5.35	8977	9.73018		B	---
EQUILIBRATION	2	1	5.36	8824	9.56658		B	---
SOLVENT BLANK	3	1	0.00	0	0.00000	UNDR	OB	---
GCMIX-G2 100 NG/ML STD	4	1	5.36	94995	101.70805		OB	---
GCMIX-G3 60.0 NG/ML STD	5	1	5.36	53767	57.62313		B	---
43767-154 CONTROL	6	1	0.00	0	0.00000	UNDR	O	---
43767-155 CONTROL + 1 UG EACH	7	1	5.36	9733	1.05378		OB	---
43767-156 CONTROL + 1 UG EACH	8	1	5.36	9549	1.03414			---
GCMIX-G4 40.0 NG/ML STD	9	1	5.36	38103	40.87355			---
43767-157 CONTROL + 10 UG EACH	10	1	5.36	33466	8.97893		B	---
43767-158 CONTROL + 10 UG EACH	11	1	5.37	34704	9.30998			---
GCMIX-G5 20.0 NG/ML STD	12	1	5.36	18513	19.92616			---
43767-159 CONTROL + 1000 UG EACH	13	1	5.35	51693	872.64178			---
43767-160 CONTROL + 1000 UG EACH	14	1	5.36	53565	904.16217		B	---
GCMIX-G6 10.0 NG/ML STD	15	1	5.37	9212	9.98150			---
GCMIX-H7 4.00 NG/ML STD	16	1	5.35	3650	4.03394		O	---

MCDO [43767] 29 C18NWMV2

ABC Laboratories, Inc.
Results Information Report ver 3.3
Component Name: MALATHION

Report Date: 29 OCT 97
Time: 10:11:35
Page: 1

Sample Name	SMP #	INJ #	RT(mins)	Height	ng/mL or ug	CAL. RANG	Peak Type	Bad INJ
EQUILIBRATION	1	1	6.03	6189	10.92366		OB	---
EQUILIBRATION	2	1	6.04	6518	11.47548		B	---
SOLVENT BLANK	3	1	0.00	0	0.00000	UNDR		---
GCMIX-G2 100 NG/ML STD	4	1	6.04	62323	105.06298		B	---
GCMIX-G3 60.0 NG/ML STD	5	1	6.04	34894	59.06361		OB	---
43767-154 CONTROL	6	1	0.00	0	0.00000	UNDR		---
43767-155 CONTROL + 1 UG EACH	7	1	6.03	6909	1.21314			---
43767-156 CONTROL + 1 UG EACH	8	1	6.03	6448	1.13579		O	---
GCMIX-G4 40.0 NG/ML STD	9	1	6.04	21627	36.81351		OB	---
43767-157 CONTROL + 10 UG EACH	10	1	6.04	21727	9.24545		F	---
43767-158 CONTROL + 10 UG EACH	11	1	6.04	22985	9.77257		OBF	---
GCMIX-G5 20.0 NG/ML STD	12	1	6.04	10625	18.36327		B	---
43767-159 CONTROL + 1000 UG EACH	13	1	6.03	29550	789.07324			---
43767-160 CONTROL + 1000 UG EACH	14	1	6.03	32994	880.04547			---
GCMIX-G6 10.0 NG/ML STD	15	1	6.04	6605	11.62138			---
GCMIX-H7 4.00 NG/ML STD	16	1	6.03	2063	4.00311			---

Acquisition and Peak Processing Parameters Report Print Date and Time : 29 OCT 97 10:13:42
Version 2 Page : 1
MCDO [43767] 29 C18NWMV2 Based on Sample Number : 1 Injection Number : 1

ACQUISITION PARAMETERS
Data Collection :
Length of Run..... 14.98 mins
Post Injection Delay..... 0.00 mins
Sampling Rate..... 15.00 Hz
Baseline Offset :
Adjust Baseline..... Yes
Baseline Offset..... 10.00 %

PEAK PROCESSING PARAMETERS
Auto Process Parameters :
Peak Threshold..... 0.50
Baseline Test..... 4
Peak Trend..... 6
Separation Parameters :
Shoulder Sensitivity..... 0.10
Rider Sensitivity..... 0.05
Rejection Parameters :
Minimum Peak Width..... 0.00 secs
Minimum Peak Height..... 500.00 uV
Minimum Peak Area..... 0.00 uVs
Ignore Flat Top Peak..... No
User Imposed Action Control :
Forced Baseline..... No
Suppress Integration..... Yes
Tangent Skimming..... No
Shoulder Detection..... No
Data Bunching..... No
Negative Detection..... No
Integration Modes :
Retention Time Integration..... No
Square Root Area and Height..... No

PROCESSING ACTIONS

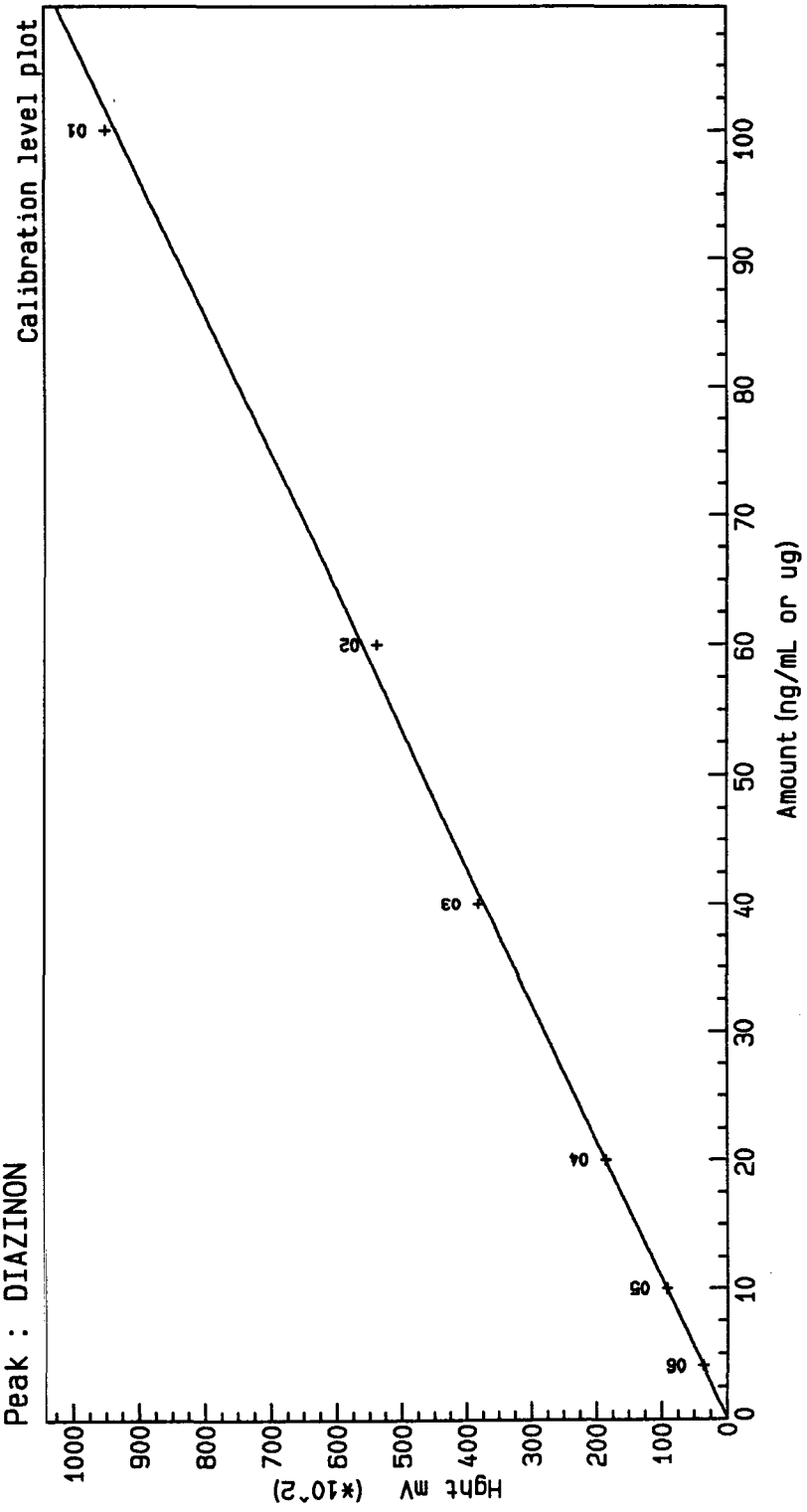
Time (mins)	Force Baseline	Integrate Suppress	Tangent Skim	Bunch Size	Shoulder Detect	Negative Detect
0.00	--	SI	_	0	--	--
5.25	--	ES	_	0	--	--
5.45	--	SI	_	0	--	--
5.95	--	ES	_	0	--	--
6.15	--	SI	_	0	--	--

Calibration last modified on 29-Oct-1997 at 10:06
Calibration Sequence..... AVERAGE

These parameters apply to all injections of set C18NWMV2 with no exceptions

ABC Laboratories, Inc. Multichrom ver 1.8-2

Calibration Name : 29 C18NWMV2.
43767 C18 NECK WIPE METHOD VALIDATION SET 2
Peak : DIAZINON



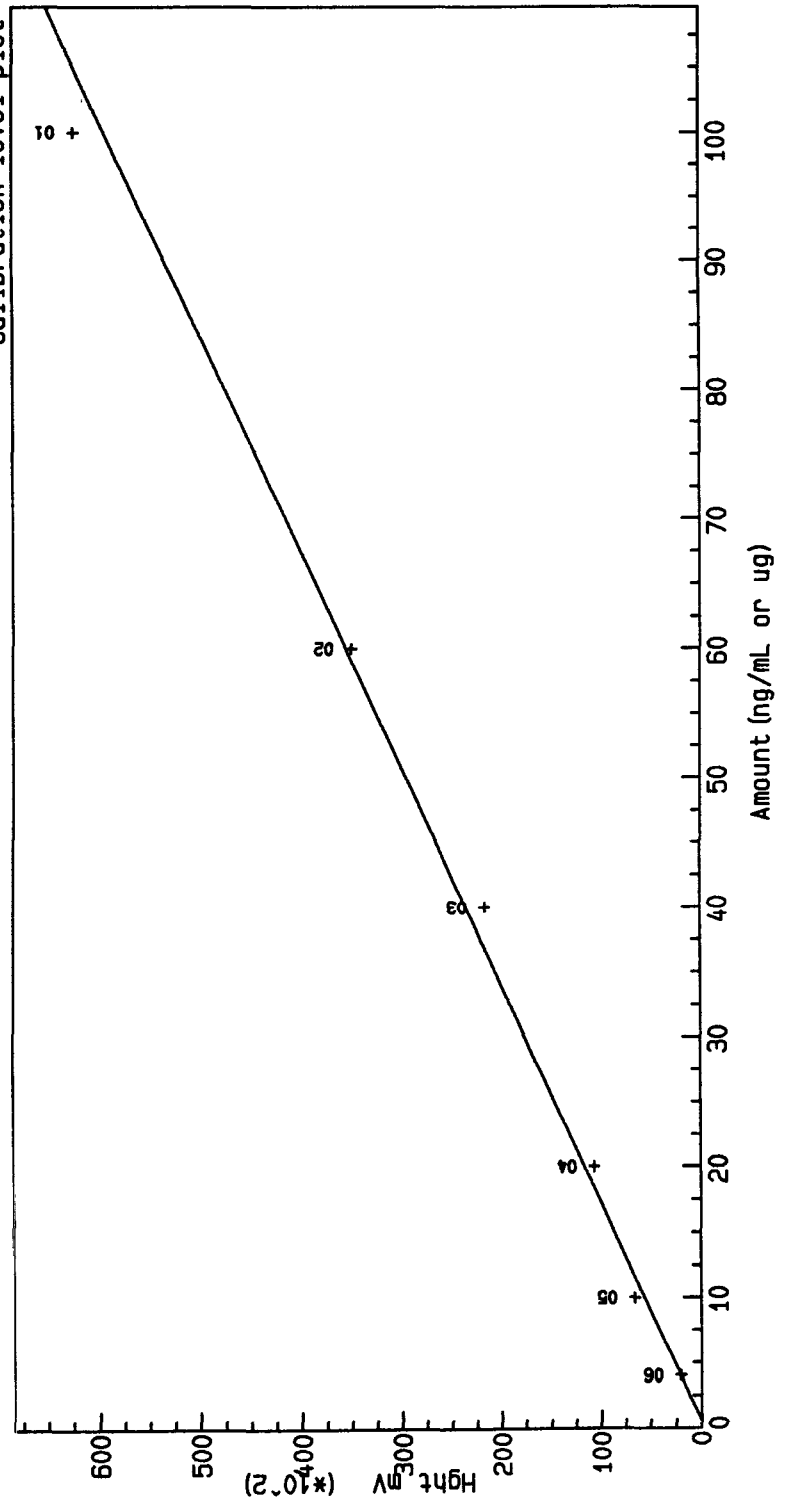
Constant : -1.224113E+2
1st degree : 9.35201E+2

Curve fit : Linear
Correlation coefficient : 0.99930
Standard error : 1.42882E+3

Reported on 29-OCT-1997 at 10:15

ABC Laboratories, Inc. Multichrom ver 1.8-2

Calibration Name : 29 C18NWMV2.
43767 C18 NECK WIPE METHOD VALIDATION SET 2
Peak : MALATHION



Constant : -3.244473E+2
1st degree : 5.96288E+2

Curve fit : Linear
Correlation coefficient : 0.99707
Standard error : 1.93155E+3

Reported on 29-OCT-1997 at 10:15

ABC Laboratories, Inc.

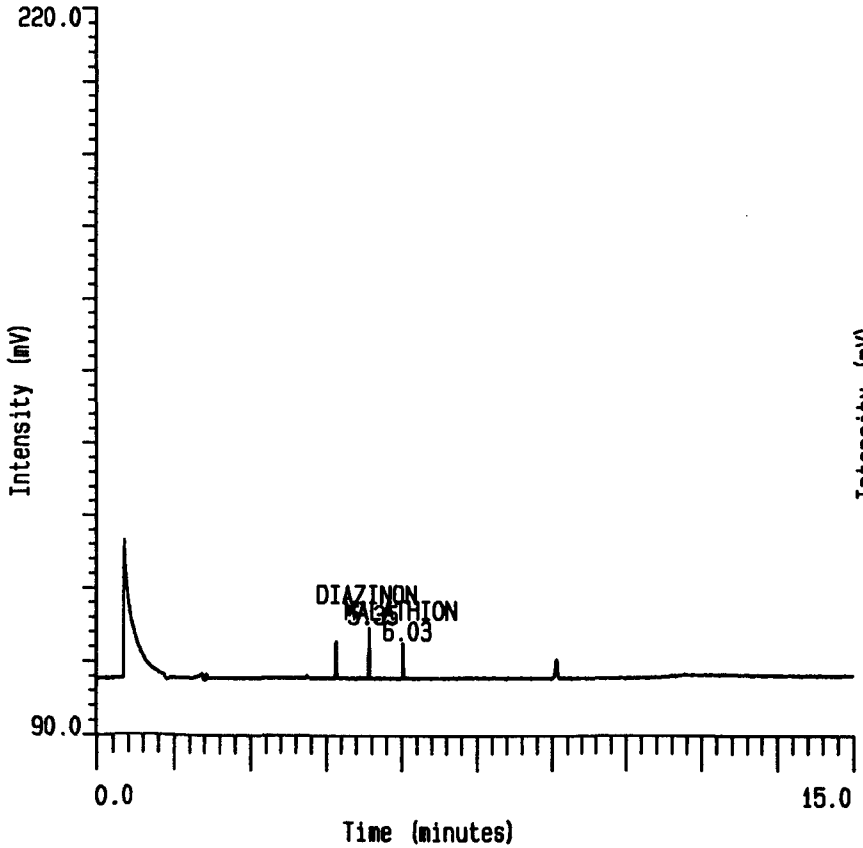
MCPP ver 2.3

43767 C18 NECK WIPE METHOD VALIDATION 2

Date of Report: 30 OCT 97 at 09:56:09

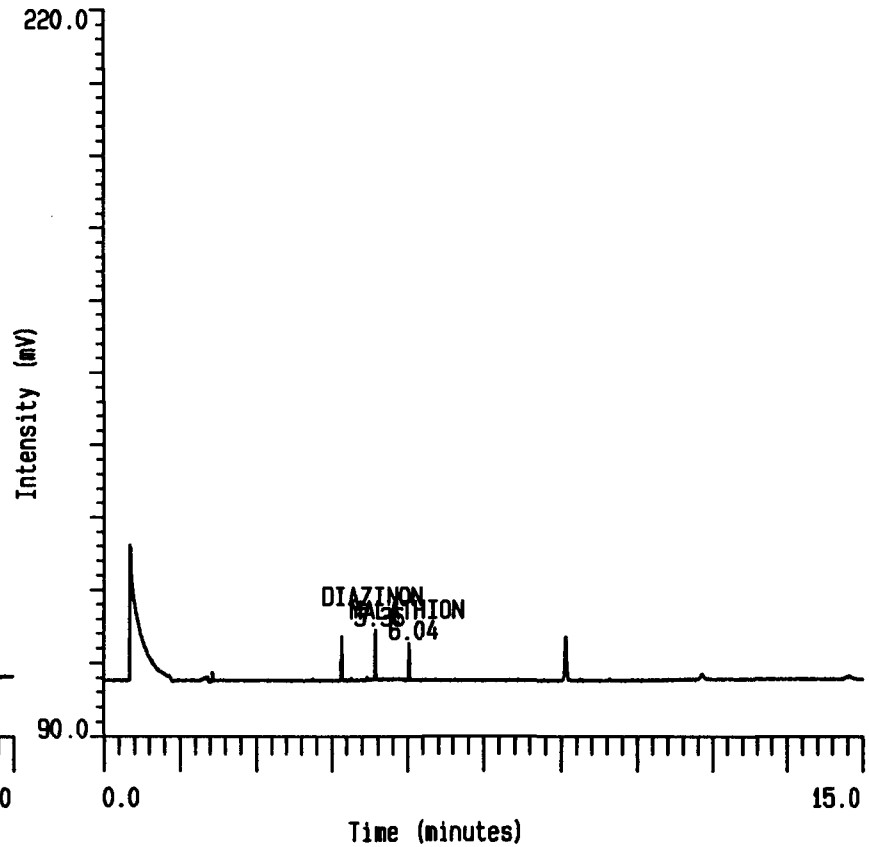
MCDO [43767] 29 C18NWMV2,1,1
EQUILIBRATION
Acquired on 28-Oct-1997 at 21:14

Peak Name	RT (mins)	Height	ng/mL or ug
DIAZINON	5.35	8977	9.73018
MALATHION	6.03	6189	10.92366



MCDO [43767] 29 C18NWMV2,2,1
EQUILIBRATION
Acquired on 28-Oct-1997 at 21:34

Peak Name	RT (mins)	Height	ng/mL or ug
DIAZINON	5.36	8824	9.56658
MALATHION	6.04	6518	11.47548



ABC Laboratories, Inc.

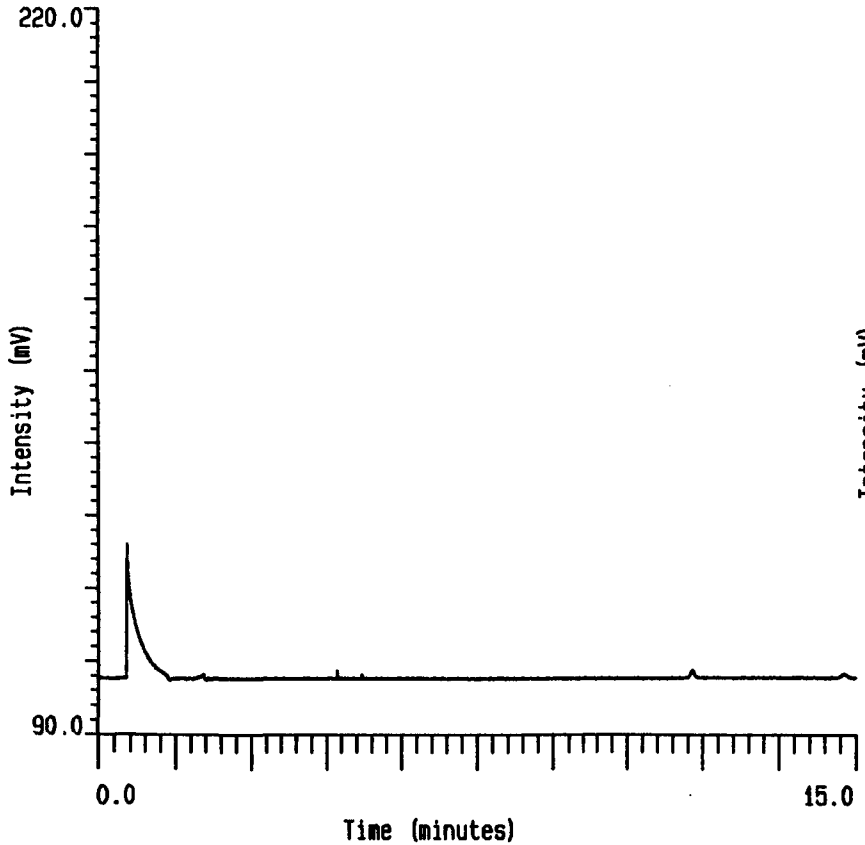
MCPP ver 2.3

43767 C18 NECK WIPE METHOD VALIDATION 2

Date of Report: 30 OCT 97 at 09:56:09

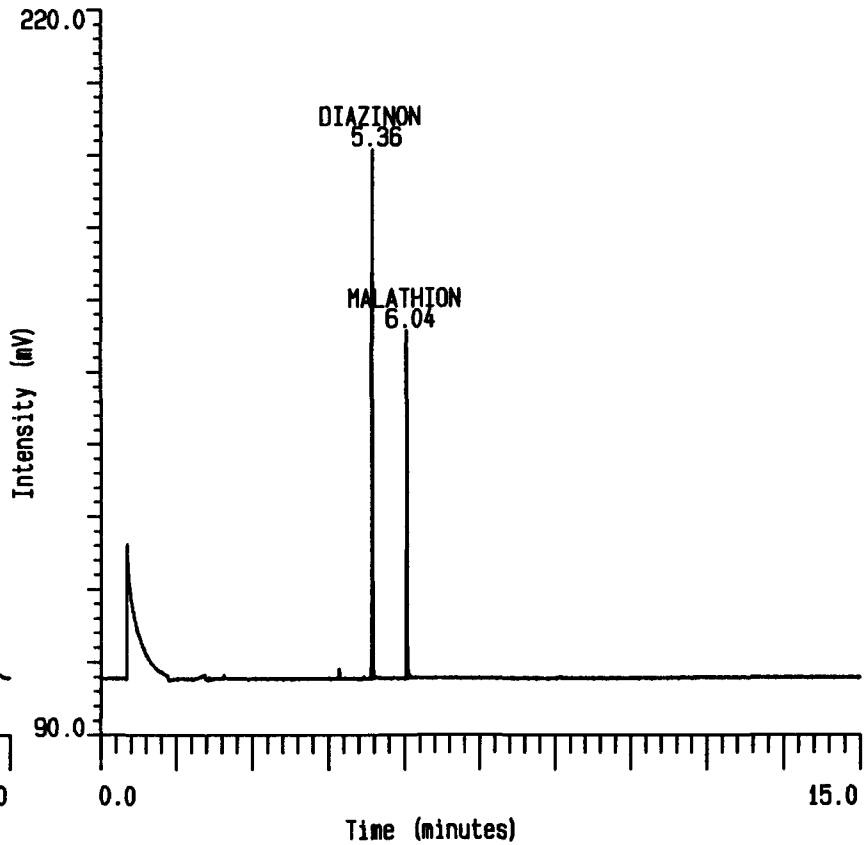
MCDO [43767] 29 C18NWMV2,3,1
SOLVENT BLANK
Acquired on 28-Oct-1997 at 21:54

Peak Name	RT (mins)	Height	ng/mL or ug
DIAZINON	0.00	0	0
MALATHION	0.00	0	0



MCDO [43767] 29 C18NWMV2,4,1
GCMIX-G2 100 NG/ML STD
Acquired on 28-Oct-1997 at 22:14

Peak Name	RT (mins)	Height	ng/mL or ug
DIAZINON	5.36	94995	101.70805
MALATHION	6.04	62323	105.06298



ABC Laboratories, Inc.

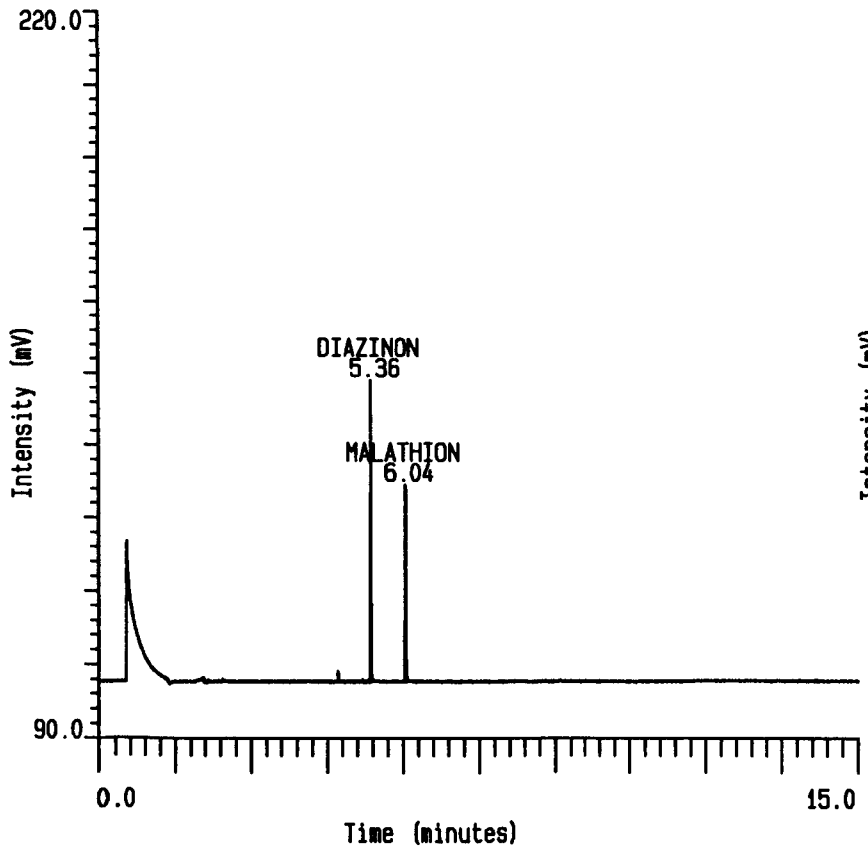
MCPP ver 2.3

43767 C18 NECK WIPE METHOD VALIDATION 2

Date of Report: 30 OCT 97 at 09:56:09

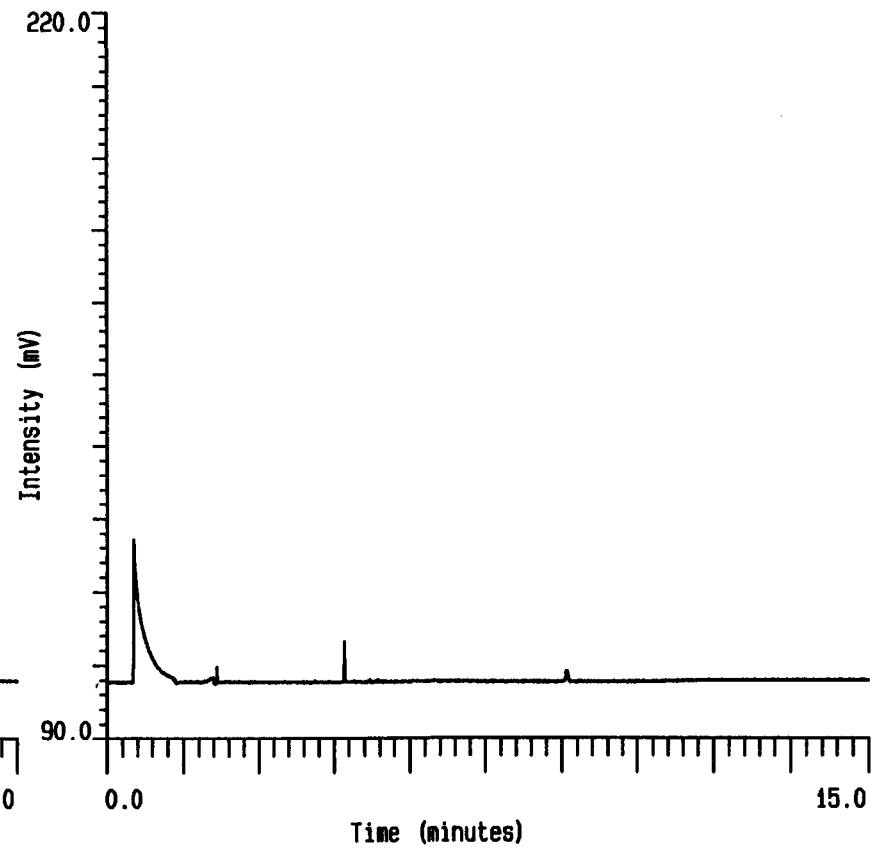
MCDO [43767] 29 C18NWMV2,5,1
GCMIX-G3 60.0 NG/ML STD
Acquired on 28-Oct-1997 at 22:34

Peak Name	RT (mins)	Height	ng/mL or ug
DIAZINON	5.36	53767	57.62313
MALATHION	6.04	34894	59.06361



MCDO [43767] 29 C18NWMV2,6,1
43767-154 CONTROL
Acquired on 28-Oct-1997 at 22:54

Peak Name	RT (mins)	Height	ng/mL or ug
DIAZINON	0.00	0	0
MALATHION	0.00	0	0



ABC Laboratories, Inc.

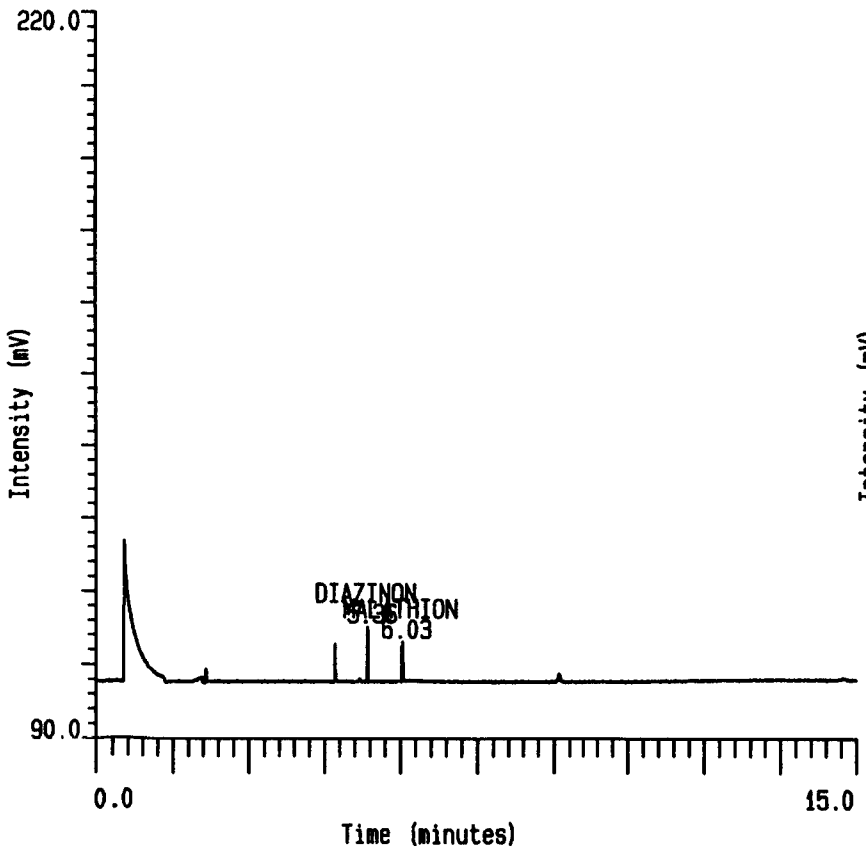
MCPP ver 2.3

43767 C18 NECK WIPE METHOD VALIDATION 2

Date of Report: 30 OCT 97 at 09:56:09

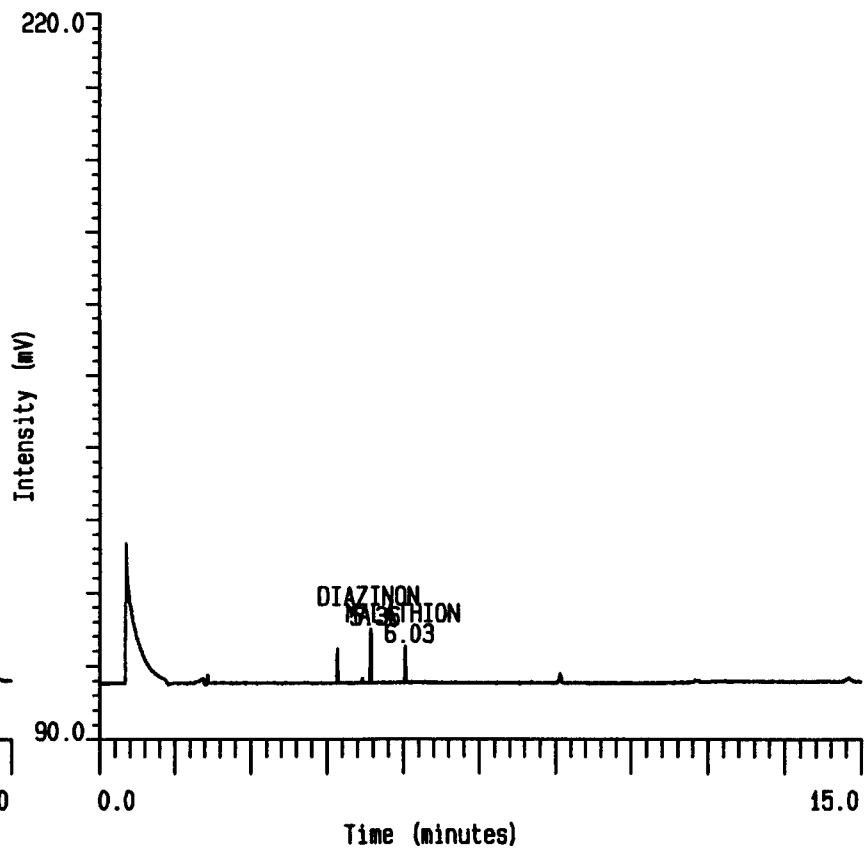
MCDO [43767] 29 C18NWMV2,7,1
43767-155 CONTROL + 1 UG EACH
Acquired on 28-Oct-1997 at 23:14

Peak Name	RT (mins)	Height	ng/mL or ug
DIAZINON	5.36	9733	1.05378
MALATHION	6.03	6909	1.21314



MCDO [43767] 29 C18NWMV2,8,1
43767-156 CONTROL + 1 UG EACH
Acquired on 28-Oct-1997 at 23:34

Peak Name	RT (mins)	Height	ng/mL or ug
DIAZINON	5.36	9549	1.03414
MALATHION	6.03	6448	1.13579



ABC Laboratories, Inc.

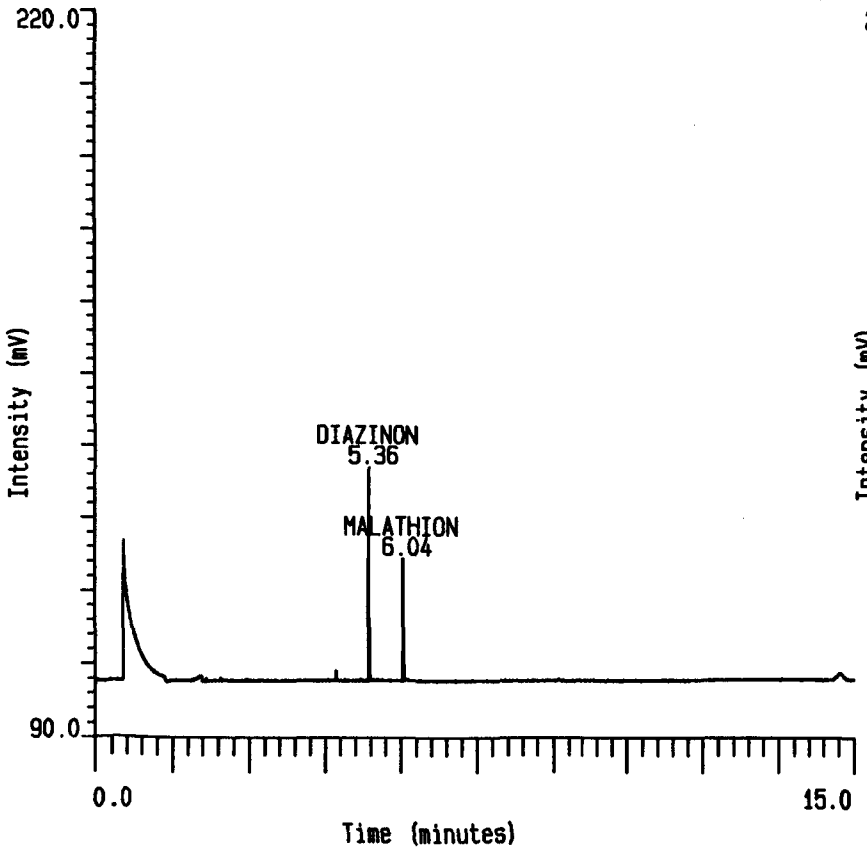
MCPP ver 2.3

43767 C18 NECK WIPE METHOD VALIDATION 2

Date of Report: 30 OCT 97 at 09:56:09

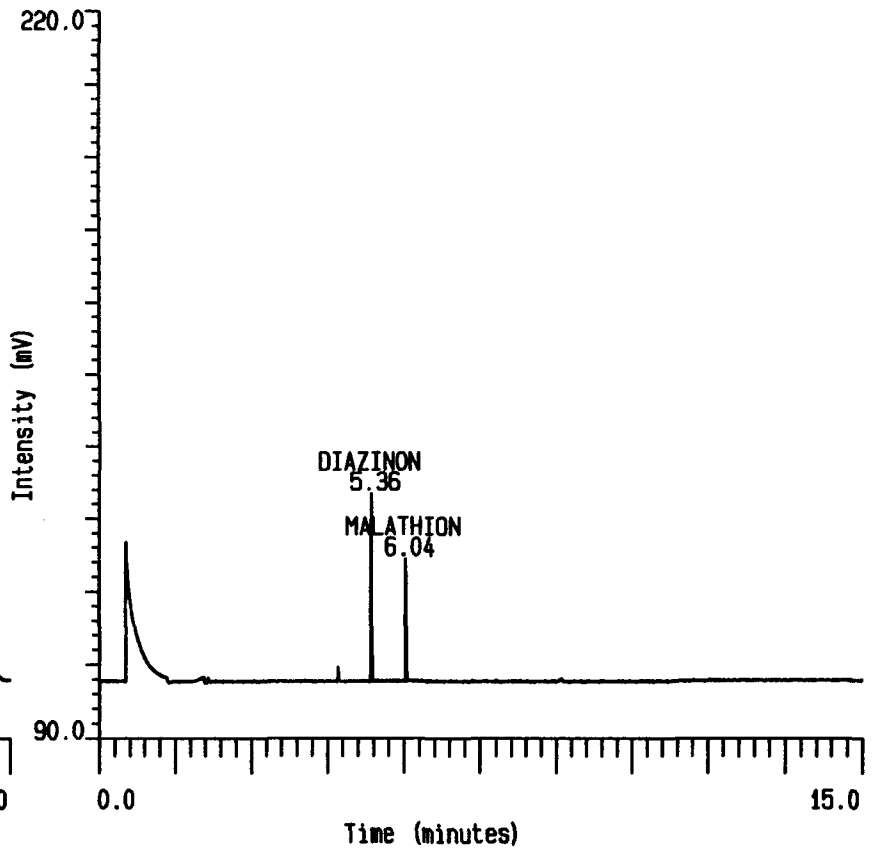
MCDO [43767] 29 C18NWMV2,9,1
GCMIX-G4 40.0 NG/ML STD
Acquired on 28-Oct-1997 at 23:55

Peak Name	RT (mins)	Height	ng/mL or ug
DIAZINON	5.36	38103	40.87355
MALATHION	6.04	21627	36.81351



MCDO [43767] 29 C18NWMV2,10,1
43767-157 CONTROL + 10 UG EACH
Acquired on 29-Oct-1997 at 00:15

Peak Name	RT (mins)	Height	ng/mL or ug
DIAZINON	5.36	33466	8.97893
MALATHION	6.04	21727	9.24545



ABC Laboratories, Inc.

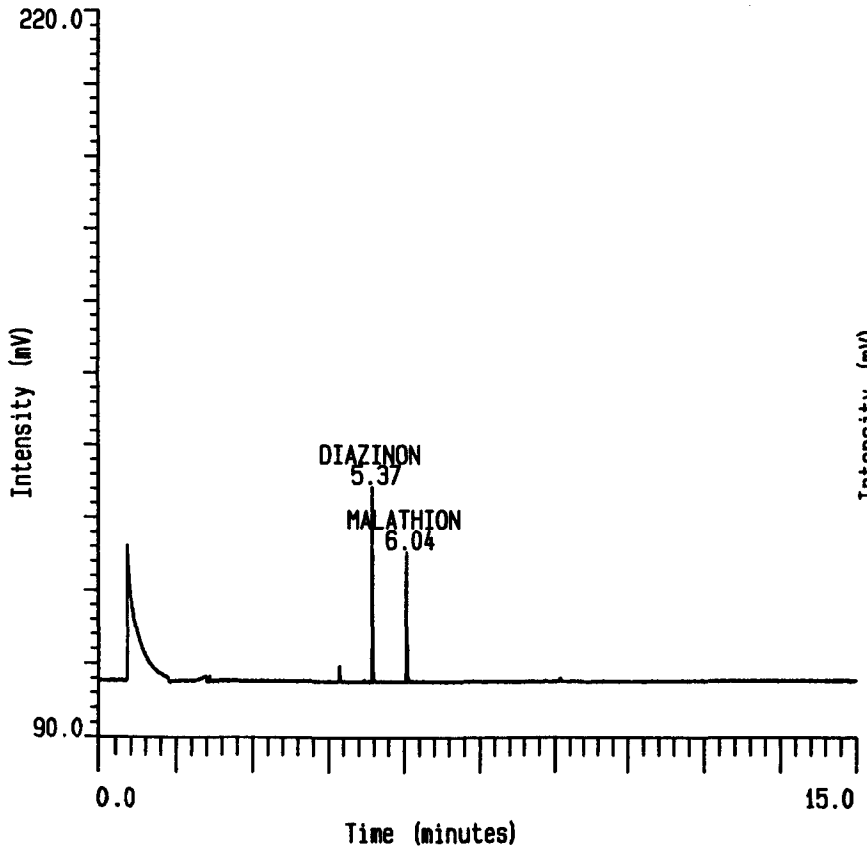
MCPP ver 2.3

43767 C18 NECK WIPE METHOD VALIDATION 2

Date of Report: 30 OCT 97 at 09:56:09

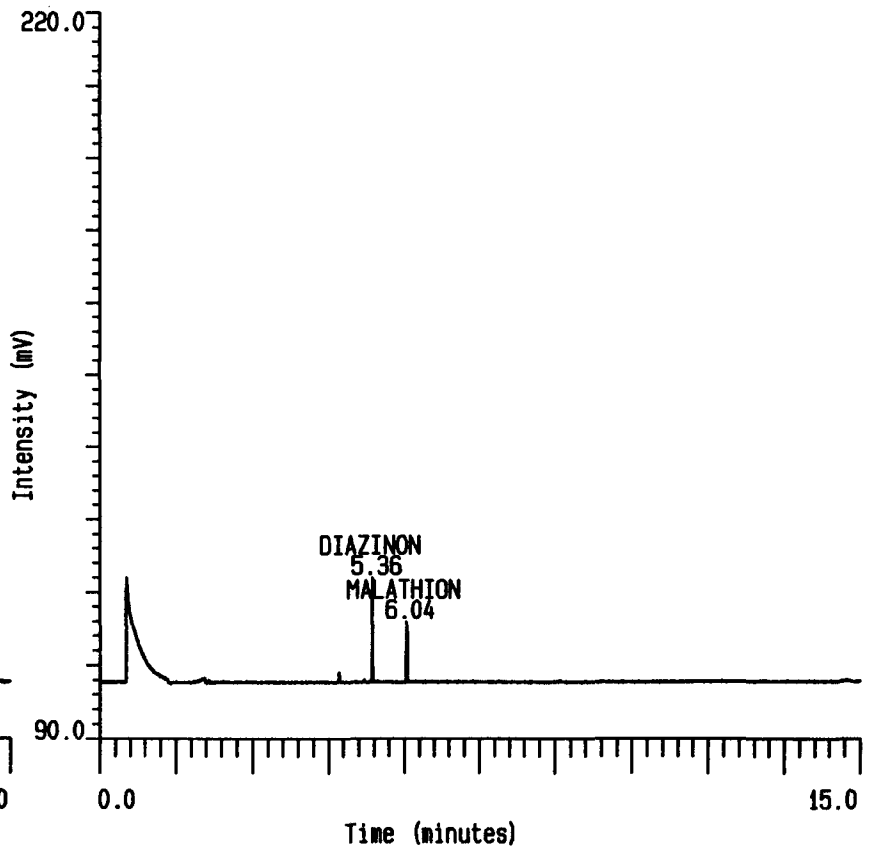
MCDO [43767] 29 C18NWMV2, 11, 1
43767-158 CONTROL + 10 UG EACH
Acquired on 29-Oct-1997 at 00:35

Peak Name	RT (mins)	Height	ng/mL or ug
DIAZINON	5.37	34704	9.30998
MALATHION	6.04	22985	9.77257



MCDO [43767] 29 C18NWMV2, 12, 1
GCMIX-G5 20.0 NG/ML STD
Acquired on 29-Oct-1997 at 00:55

Peak Name	RT (mins)	Height	ng/mL or ug
DIAZINON	5.36	18513	19.92616
MALATHION	6.04	10625	18.36327



ABC Laboratories, Inc.

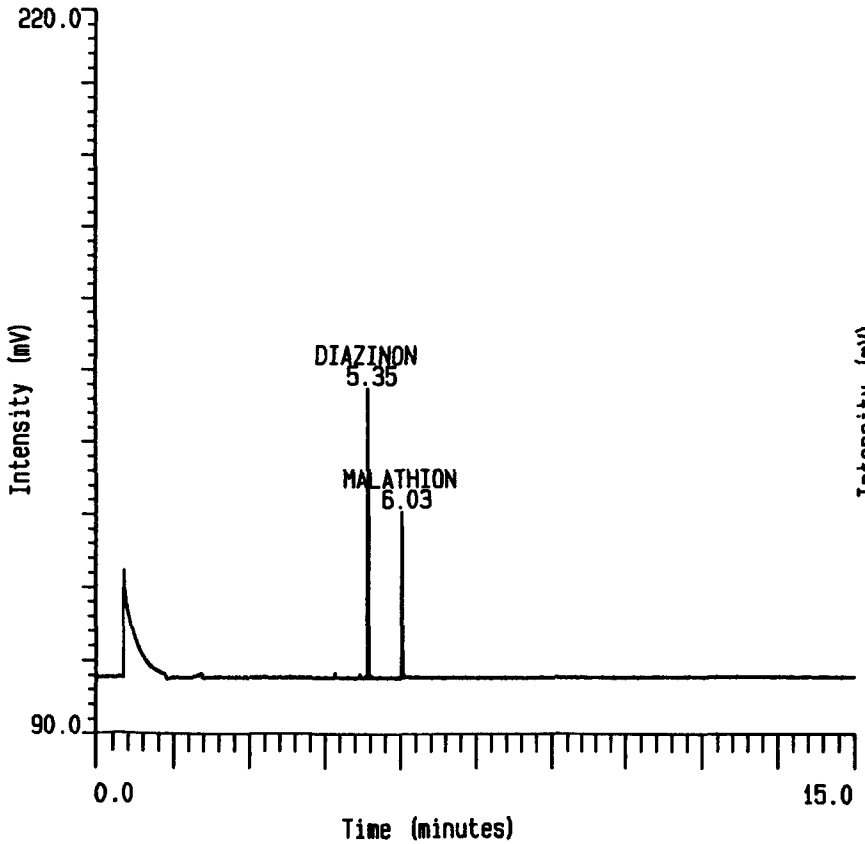
MCPP ver 2.3

43767 C18 NECK WIPE METHOD VALIDATION 2

Date of Report: 30 OCT 97 at 09:56:09

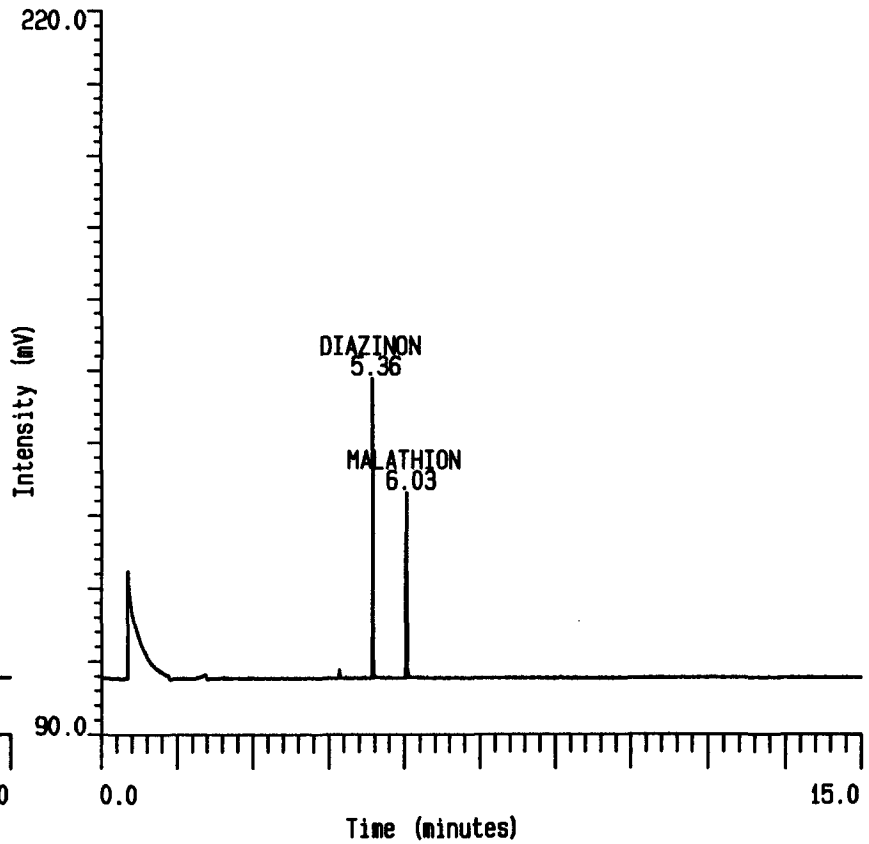
MCDO [43767] 29 C18NWMV2, 13, 1
43767-159 CONTROL + 1000 UG EACH
Acquired on 29-Oct-1997 at 01:15

Peak Name	RT (mins)	Height	ng/mL or ug
DIAZINON	5.35	51693	872.64178
MALATHION	6.03	29550	789.07324



MCDO [43767] 29 C18NWMV2, 14, 1
43767-160 CONTROL + 1000 UG EACH
Acquired on 29-Oct-1997 at 01:35

Peak Name	RT (mins)	Height	ng/mL or ug
DIAZINON	5.36	53565	904.16217
MALATHION	6.03	32994	880.04547



ABC Laboratories, Inc.

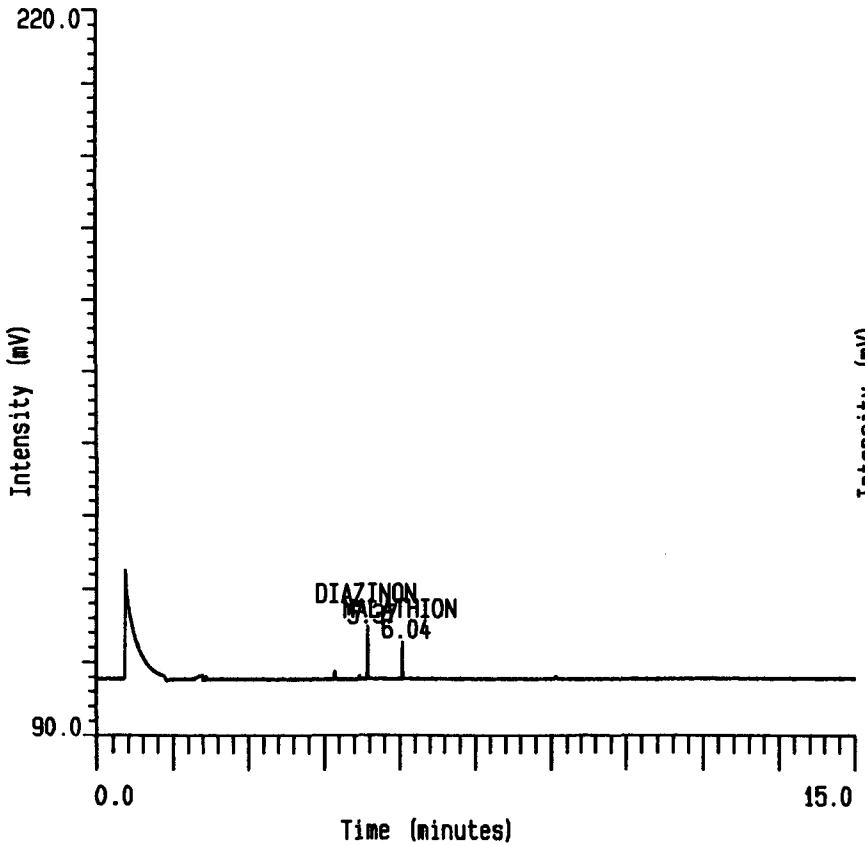
MCPP ver 2.3

43767 C18 NECK WIPE METHOD VALIDATION 2

Date of Report: 30 OCT 97 at 09:56:09

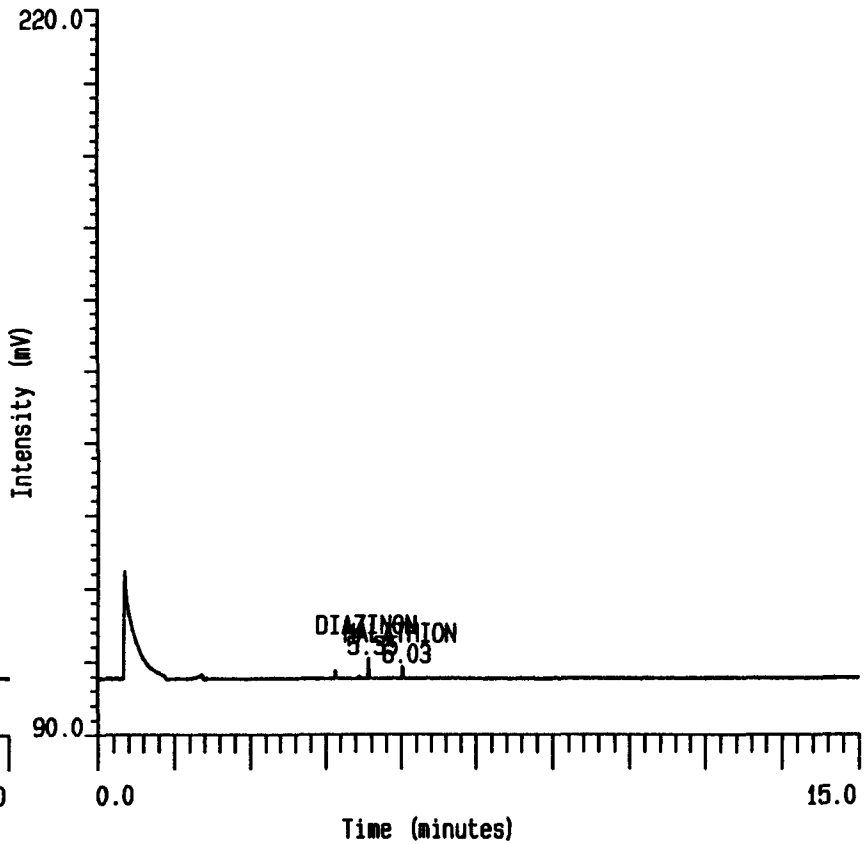
MCDO [43767] 29 C18NWMV2, 15, 1
GCMIX-G6 10.0 NG/ML STD
Acquired on 29-Oct-1997 at 01:55

Peak Name	RT (mins)	Height	ng/mL or ug
DIAZINON	5.37	9212	9.98150
MALATHION	6.04	6605	11.62138



MCDO [43767] 29 C18NWMV2, 16, 1
GCMIX-H7 4.00 NG/ML STD
Acquired on 29-Oct-1997 at 02:15

Peak Name	RT (mins)	Height	ng/mL or ug
DIAZINON	5.35	3650	4.03394
MALATHION	6.03	2063	4.00311



[43767] 29 C18NWMV2 Page 1
Reported on 31-OCT-1997 at 08:18
Modified on 29-OCT-1997 at 10:06

List Calibration File

CALIBRATION HEADER INFORMATION

Calibration Title : 43767 C18 NECK WIPE METHOD VALIDATION SET 2
General :
Calibration type..... External standard
Units..... ng/mL or ug
Calibration base..... Height
Reference Peak Identification :
Reference window..... 5.0 %
Minimum window..... 0.50 mins
Peak threshold..... 0.0 %
Uncalibrated Peaks Response Factor :
Response factor source..... User set response factor
Response factor..... 0.0000
Additional Information :
Source library..... None
Initialise on 1st standard..... No
Variation tolerance..... 100.00 %
Calibrant Peak Identification :
Calibrant window..... 0.20 mins
Calibrant threshold..... 0.0 %
Response Factor Calibration Curve :
Curve fit..... Linear
Force through zero..... No
X transformation..... None
Y transformation..... None
Weighting..... 1 / Y
Retention Value Calibration Curve :
Curve fit..... Linear
Force through zero..... No
X transformation..... None
Y transformation..... None
Weighting..... None
Timed Calibration Curve :
Curve fit..... Linear
Force through zero..... No
X transformation..... None
Y transformation..... None
Weighting..... None
No group information entered.

[43767] 29 C18NWMV2 Page 2
Reported on 31-OCT-1997 at 08:18
Modified on 29-OCT-1997 at 10:06

Peak name : DIAZINON
Expected retention time : 5.36 mins (RT range : 5.26 - 5.46 mins)
Peak window mode..... Global
Group name identifier..... ----
Peak identification mode..... Largest
Must peak..... No
Reference peak..... No
Dilution peak..... No
Retention standard..... No
Response factor mode..... Internal Levels
Purity..... 100.0000

Calibration level	Standard amount	Response factor	Calibration count
06	4.0000	912.5322	1
05	10.0000	921.2300	1
04	20.0000	925.6273	1
03	40.0000	952.5641	1
02	60.0000	896.1132	1
01	100.0000	949.9504	1

Peak name : MALATHION
Expected retention time : 6.05 mins (RT range : 5.95 - 6.15 mins)
Peak window mode..... Global
Group name identifier..... ----
Peak identification mode..... Largest
Must peak..... No
Reference peak..... No
Dilution peak..... No
Retention standard..... No
Response factor mode..... Internal Levels
Purity..... 100.0000

Calibration level	Standard amount	Response factor	Calibration count
06	4.0000	515.6398	1
05	10.0000	660.5238	1
04	20.0000	531.2674	1
03	40.0000	540.6750	1
02	60.0000	581.5744	1
01	100.0000	623.2333	1

Attachment 9. Supporting Documentation

Bayer

Agriculture Division
8400 Hawthorn Rd.
P.O. Box 4913
Kansas City, MO 64120-0013
Phone 816-242-2000
Fax 816-242-2688

CERTIFICATE OF ANALYSIS/CHAIN OF CUSTODY

Name(s): **Diazinon**

Identification No.: **09467**

Quantity: **2 gram**

Reference Number(s): **95R-31-45C**

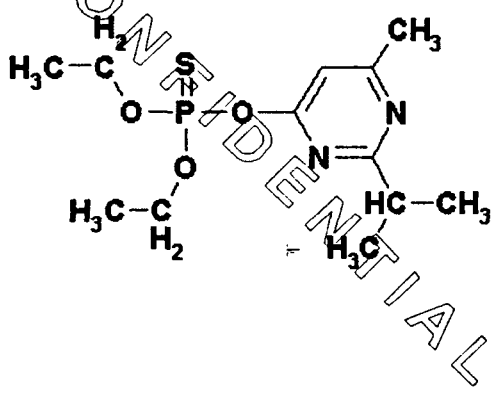
Date Value Assigned: **12/31/96**

Certified GLP Assay: **87.7%**

Expiration Date: **12/97**

CAS Number (if available): **333-41-5**

Structure:



CONFIDENTIAL

Recommended Storage and Use:

Freezer conditions when not in use. Equilibrate to ambient temperature before opening. Reseal container and refreeze immediately after sampling.

Return Instructions:

Unused material must be returned prepaid to the Standards Archivist at the above address, properly packaged and labeled.

Questions/Problems:

Questions or problems with this material should be directed to Carl E. Gregg at the above telephone/fax numbers.

Comments:

MASG-555

Transfer of Materials (Chain of Custody)

R.M. Elliott Standards Archivist Analytical Services Group	R.M. Elliott	Date 3/19/97

Signatures Date Quantity

Bayer

Agriculture Division
8400 Hawthorn Rd.
P.O. Box 4913
Kansas City, MO 64120-0013
Phone 816-242-2000
Fax 816-242-2688

CERTIFICATE OF ANALYSIS/CHAIN OF CUSTODY

Name(s): **Malathion**

Identification No.: **CS030**

Quantity: **2 gram**

Reference Number(s): **95R-31-44E**

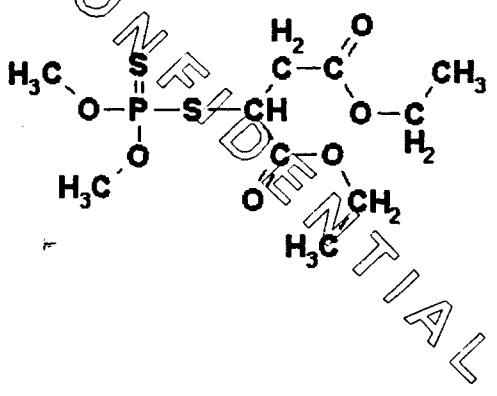
Date Value Assigned: **12/12/96**

Certified GLP Assay: **95.0%**

Expiration Date: **12/97**

CAS Number (if available): **121-75-5**

Structure:



CONFIDENTIAL

Recommended Storage and Use:

Freezer conditions when not in use. Equilibrate to ambient temperature before opening. Reseal container and refreeze immediately after sampling.

Return Instructions:

Unused material must be returned prepaid to the Standards Archivist at the above address, properly packaged and labeled.

Questions/Problems:

Questions or problems with this material should be directed to Carl E. Gregg at the above telephone/fax numbers.

Comments:

MASG-555

Transfer of Materials (Chain of Custody)

	Date
R.M. Elliott Standards Archivist Analytical Services Group	R.M. Elliott 3/19/97

Signatures	Date	Quantity

Observations and Remarks Form

Test Material: Diazinon and Malathion Matrices: Various ARTF Study ARF003 Study Number: 43767	Form AC72A (5/4/93) ABC Laboratories 7200 E. ABC Lane Columbia MO 65202

Study Director: Loren C. Schrier

The following people worked on this study:

Name and Title	Signature	Initials
Jordan E. Blinne Scientist	Jordan E. Blinne	JB
Jodie Wehrman Associate Scientist	Jodie Wehrman	JW
Carol R. Hackert-Anderson Associate Scientist	Carol R. Hackert Anderson	CRA
Barbara J. Bryant Associate Technician	Barbara Bryant (ZC)	BJB
Loren Schrier Reseach Scientist/Study Director	Loren C. Schrier	
Heidi Anderson Scientist		
Congyaun Guo, Ph.D. Sr. Research Scientist	Congyaun Guo (ZC)	CYG ① ~~GYG~~ ZG
① Entry Error ZC 19Feb98		

Entered by: _____ Date: 24Feb98

Checked by: CRA Date: 24Feb98

Approved by: _____ Date: 24Feb98