[redacted]

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8R50151

May 27, 1998

Dr. J. Vincent Nabholz
USEPA-OPPT 7403
401 M St. , S.W.
Washington, D.C. 20460

Dear Dr. Nabholz,

Please find attached, the Daphnid study filed under TSCA 8(e) as 8e-HQ-1297-14086, per your request.

Sincerely,

Hester Kobayashi

Contains No CBI

8EHQ-[redacted]-14086

[redacted]

CONFIDENTIAL

KSP 173(b)/920320

THE ACUTE TOXICITY OF POIRENATE (P92-0526) TO *DAPHNIA MAGNA*

Addressee:

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Final report issued 19 June 1992.

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AUTHORS' SIGNATURE PAGE

We the undersigned, hereby declare that the work was performed under our supervision according to the procedures herein described, and that this report provides a correct and faithful record of the results obtained.

Mark T. Douglas, B.Sc., Ph.D.,
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COMPLIANCE WITH GOOD LABORATORY PRACTICE STANDARDS

To the best of my knowledge and belief the study described in this report was conducted in compliance with the following Good Laboratory Practice Standards:

Good Laboratory Practice, The United Kingdom Compliance Programme, Department of Health & Social Security 1986 and subsequent revision, Department of Health, 1989.

United States Food and Drug Administration, Title 21 Code of Federal Regulations Part 58, Federal Register, 22 December 1978, and subsequent Amendments.

United States Environmental Protection Agency, (FIFRA), Title 40 Code of Federal Regulations Part 160, Federal Register, 29 November 1983 and subsequent amendment Federal Register 17 August 1989.

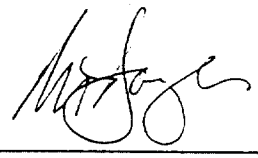
United States Environmental Protection Agency, (TSCA), Title 40 Code of Federal Regulations Part 792, Federal Register, 29 November 1983 and subsequent amendment Federal Register 17 August 1989.

Japanese Ministry of Health and Welfare, Notification No. Yakuhatsu 313 Pharmaceutical Affairs Bureau, 31 March 1982 and subsequent amendment Notification No. Yakuhatsu 870, Pharmaceutical Affairs Bureau, 5 October 1988.

Japanese Ministry of Agriculture, Forestry and Fisheries, 59 NohSan, Notification No. 3850, Agricultural Production Bureau, 10 August 1984.

Japanese Ministry of International Trade and Industry, Directive 31 March 1984 (Kanpogyo No. 39 Environmental Agency, Kikyoku No. 85 MITI).

Organisation for Economic Co-operation and Development, ISBN 92-64-12367-9, Paris 1982.



19 June 92

Mark T. Douglas, B.Sc., Ph.D.,
Study Director,
Huntingdon Research Centre Ltd..

KSP 173(b)/920320

QUALITY ASSURANCE STATEMENT

Certain studies such as that described in this report, are conducted at HRC in a setting which involves frequent repetition of similar or identical procedures. At or about the time the study described in this report was in progress, "process-based" inspections were made by the Quality Assurance Department of critical procedures relevant to this study type. For the inspection of any given procedure, at least one study was selected without bias. The findings of these inspections were reported promptly to the Study Director and to HRC Management.

This report has been audited by HRC Quality Assurance Department. It is considered to be an accurate description of the procedures and practices employed during the course of the study and an accurate presentation of the findings.

Date of inspection	09-18.12.91
Date of reporting inspection findings to the Study Director and HRC Management	18.12.91
Date of reporting audit findings to the Study Director and HRC Management	10.06.92

16.6.92

K.P. de-Salis, B.A.,
Systems Compliance Auditor,
Department of Quality Assurance,
Huntingdon Research Centre Ltd..

CONTENTS

	Page
SUMMARY	i
INTRODUCTION	1
MATERIALS AND METHODS	2 - 4
RESULTS	5
TABLE	
1. Cumulative immobilisation data for *Daphnia magna* exposed for 48 hours to Poirenate	6
FIGURE	
1. Concentration-response curve for *Daphnia magna* exposed for 48 hours to Poirenate	7
APPENDICES	
1. Environmental measurements	8
2. Verification of test concentrations	9 - 14
3. Typical water quality characteristics of the municipal supply	15 - 16

SUMMARY

Test substance	:	Poirenate.
Test species	:	*Daphnia magna* (Straus) tested in the 1st instar.
Test type	:	Acute toxicity. 48 h EC_{50} (immobilisation).
Test conditions	:	Static test conditions according to OECD guideline No. 202 Part 1 and EEC Directive 67/548 Annex V,C.2 as published in 84/449/EEC.

Results

Test substance : Poirenate.

Time (h)	EC_{50} (mg/l)	95% confidence limits (mg/l)
24	>5.9	-
48	1.1	0.88 - 1.4

"no-effect" level at 24 h = 1.6 mg/l
"no-effect" level at 48 h = 0.30 mg/l

All concentrations are based on mean measured concentrations. Values obtained ranged from 64 to 75% of nominal (mean value 70%) at 0 hours (fresh media) and from 35 to 43% of nominal (mean value 39%) at 48 hours (expired media).

Data for the 1 mg/l treatment were not included in these calculations due to a suspected sampling/analytical error at 48 hours.

INTRODUCTION

This report contains a description of the methods used and the results obtained during a study to investigate the acute toxicity of Poirenate to *Daphnia magna*.

The study was commissioned by Kao Corporation and undertaken between 14 and 16 January 1992.

Dates of Protocol approval

Study Director	:	2 August 1991.
HRC Ltd. Management	:	2 August 1991.
Sponsor	:	22 August 1991.

MATERIALS AND METHODS

Test substance

Identification	:	Poirenate. Ethyl 2-cyclohexyl propionate.
Description	:	Clear liquid.
Purity	:	99.4%. (Batch no. 12).
Major impurity	:	2-Cyclohexyl propyl ethyl ether.
Date of receipt	:	22 October 1991.
Expiry	:	21 December 1992.
Storage	:	In darkness at 4°C.
Method of preparation	:	Direct dispersion in water. Dispersion in the stock solution was aided by the use of a Silverson blender for ≃ 1 minute.
Stability of test concentrations	:	Verified by chemical analysis. Water samples were taken from the control and all test concentrations at 0 hours and from the control and all relevant test concentrations at 48 hours and sent to HRC Department of Analytical Chemistry for analysis (see Appendix 2).

Test species

Name	:	*Daphnia magna* (Straus).
Source	:	Laboratory culture originating from a strain supplied by IRChA, France.
Culture	:	At 20 ± 2°C in glass vessels containing two litres of dechlorinated and aged tap-water. Cultures were fed daily with a mixture of fry fish food (Liquifry®) and a suspension of mixed algae (predominantly *Scenedesmus* or *Selenastrum* spp.). Culture conditions ensure that reproduction is by parthenogenesis.

Selection	:	Gravid adults were isolated 24 hours prior to initiation of the test. Young daphnids produced overnight were used for testing.

Test water

Laboratory tap water, dechlorinated by passage through activated carbon, softened by reverse osmosis and "aged" by recirculation through a gravel filter bed. Total hardness 150 - 200 mg/l as $CaCO_3$. Typical water quality characteristics of the municipal supply are given in Appendix 3.

Exposure conditions

Test vessels	:	Glass jars each containing 200 ml test solution. The jars were covered with aluminium foil with minimum headspace.
Experimental design	:	9 test concentrations plus 1 control, each in duplicate. 20 animals per test concentration.
Method of initiation	:	*Daphnia* were placed in the test solutions after addition of the test substance.
Loading	:	20 ml test solution per organism.
Photoperiod	:	16 h light : 8 h dark.
Temperature	:	21°C.
Aeration	:	None.
Nominal test concentrations	:	0.10, 0.18, 0.32, 0.56, 1.0, 1.8, 3.2, 5.6 and 10 mg/l.
Relevant measured test concentrations	:	0.30, 0.94, 1.6, 2.9 and 5.9 mg/l.
Medium renewal	:	None.
Duration of exposure	:	48 hours.
Criterion of effect	:	*Daphnia* were considered to be immobilised if they were unable to swim for approximately 15 seconds after gentle agitation.

Records

All raw data and other documents generated at HRC during the course of this study, together with a copy of this final report, have been lodged in the HRC Ltd. Archives, Huntingdon, England.

RESULTS

Cumulative immobilisation data are given in Table 1 and the relationships between percentage immobilisation and concentration at 48 h is given in Figure 1.

Analysis* of the immobility data gave the following results:

Time (h)	EC_{50} (mg/l)	95% confidence limits (mg/l)
24	>5.9	-
48	1.1	0.88 - 1.4

"no-effect" level/ at 24 h = 1.6 mg/l
"no-effect" level/ at 48 h = 0.30 mg/l

All calculations are based on mean measured concentrations. Values obtained ranged from 64 - 75% of nominal (mean value 70%) at 0 hours (fresh media) and from 35 to 43% of nominal (mean value 39%) at 48 hours (expired media). Despite the use of covered vessels with minimum headspace, stable concentrations could not be maintained due to the volatility of Poirenate. The low values measured at 0 hours suggest that much of the losses occur during sampling and handling of the test media.

Data for the 1 mg/l treatment have not been included in these calculations due to a suspected sampling/analytical error at 48 hours. This is not considered to have any significant effect on the overall results of the test, however, since there are sufficient data remaining to define adequately the EC_{50} value (as indicated by the narrow 95% confidence limits) and the "no effect" levels.

/ Immobilisation less than or equal to 10%

* Thompson, W.R. and Weil, C.S. (1952) Biometrics *8*, 51-54.

TABLE 1

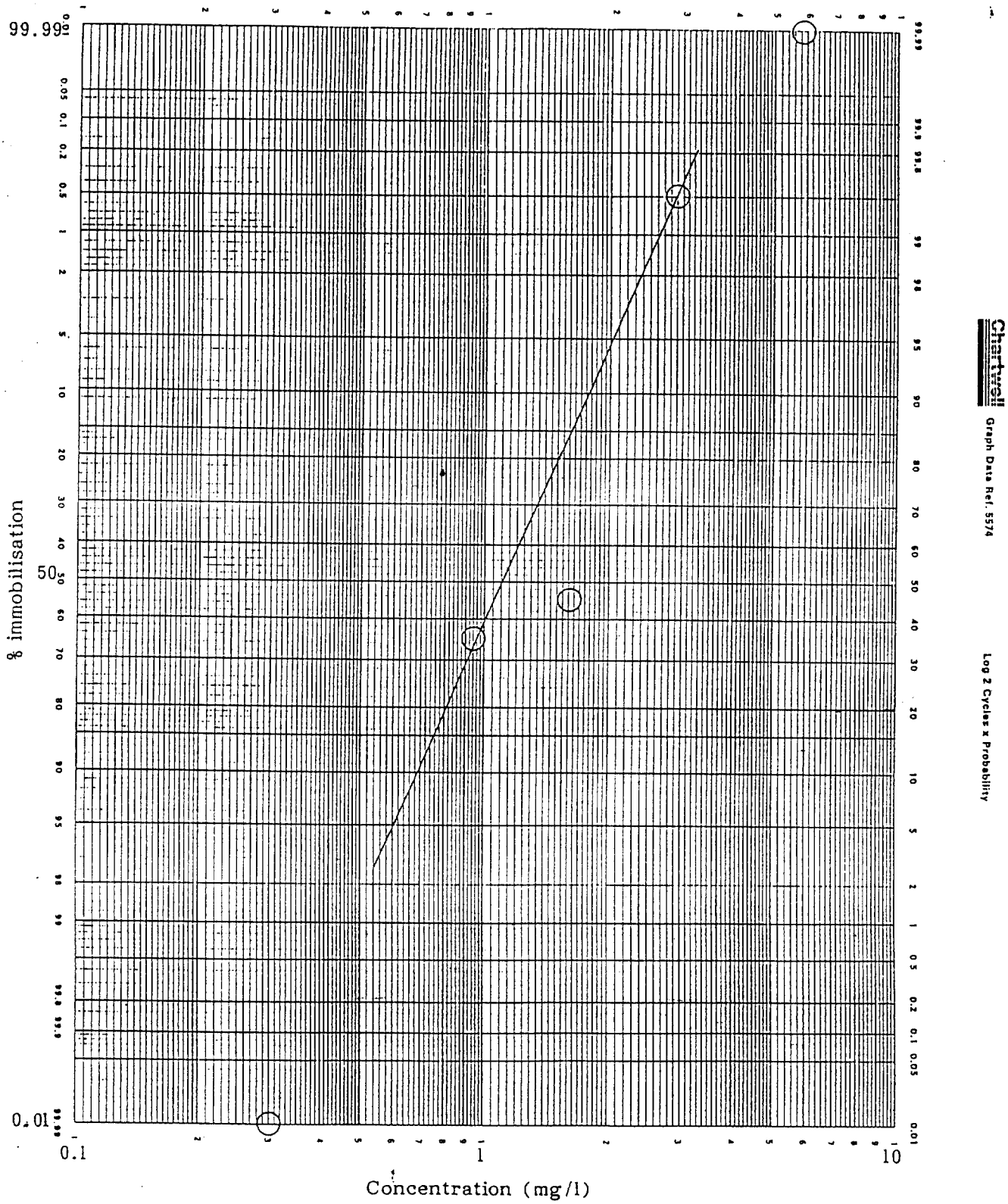
Cumulative immobilisation data for *Daphnia magna* exposed for 48 hours to Poirenate

Nominal concentration mg/l	Measured concentration mg/l	Cumulative immobilised *Daphnia magna* (initial population: 20)							
		24 hours				48 hours			
		R_1	R_2	Total	%	R_1	R_2	Total	%
Control	Control	0	0	0	0	0	1	1	5
0.10	-	0	0	0	0	1	0	1	5
0.18	-	1	0	1	5	1	0	1	5
0.32	-	0	0	0	0	0	1	1	5
0.56	0.30	0	0	0	0	0	0	0	0
1.0	-	1	0	1	5	3	3	6	30
1.8	0.94	0	0	0	0	4	3	7	35
3.2	1.6	0	1	1	5	3	6	9	45
5.6	2.9	2	4	6	30	9	10	19	95
10.0	5.9	3	4	7	35	10	10	20	100

R_1 Replicate 1
R_2 Replicate 2

FIGURE 1

Concentration-response curve for
Daphnia magna exposed for 48 hours to Poirenate



APPENDIX 1

Environmental measurements

Nominal concentration mg/l	Measured concentration mg/l		0 hours			24 hours	48 hours		
			pH	mgO_2/l	T°C	T°C	pH	mgO_2/l	T°C
Control	Control	R_1	7.1	8.6	21	21	7.6	8.4	21
		R_2	7.1	8.6	21	21	7.6	8.4	21
0.10	-	R_1	-	-	21	21	-	-	21
		R_2	-	-	21	21	-	-	21
0.18	-	R_1	-	-	21	21	-	-	21
		R_2	-	-	21	21	-	-	21
0.32	-	R_1	-	-	21	21	-	-	21
		R_2	-	-	21	21	-	-	21
0.56	0.30	R_1	-	-	21	21	-	-	21
		R_2	-	-	21	21	-	-	21
1.0	-	R_1	-	-	21	21	-	-	21
		R_2	-	-	21	21	-	-	21
1.8	0.94	R_1	-	-	21	21	-	-	21
		R_2	-	-	21	21	-	-	21
3.2	1.6	R_1	-	-	21	21	-	-	21
		R_2	-	-	21	21	-	-	21
5.6	2.9	R_1	-	-	21	21	-	-	21
		R_2	-	-	21	21	-	-	21
10	5.9	R_1	-	-	21	21	-	-	21
		R_2	-	-	21	21	-	-	21

R_1 Replicate 1
R_2 Replicate 2

N.B. Dissolved oxygen and pH probes were not compatible with test substance : water emulsions

APPENDIX 2

Verification of test concentrations

Verification of Concentration of Poirenate in Water
Acute Daphnia Study (Schedule No. KSP 173(b))

Introduction

Samples of the test media were received from the Unit of Fish Toxicology on two occasions (14th and 16th January 1992). The samples were analysed using a method developed at HRC based on information supplied by the sponsor.

The method was validated by performing recovery experiments on samples of test media fortified with Poirenate. In addition the stability of fortified samples was assessed over 24 hours.

Method of Analysis

1. Principle

   The test compound is extracted from the test media using liquid/liquid extraction with dichloromethane. The extract solution is analysed by gas-liquid chromatography (FID).

2. Method

   Each sample bottle (containing approximately 200 ml) was shaken and the contents transferred to a separating funnel containing sodium chloride (4 g). The bottle was rinsed with dichloromethane (10.0 ml) and the washings transferred to the separating funnel. After extraction (1 minute shake) the lower organic layer was drained into a volumetric flask (20.0 ml) and the aqueous layer re-extracted with dichloromethane (10.0 ml). The organic phases were combined and made to volume with dichloromethane.

   Following dilution where necessary, (see table below), the extract solutions were analysed by gas-liquid chromatography against prepared standards.

   The volume of the aqueous test sample was accurately measured after extraction and the volume recorded.

   Duplicate procedural recovery solutions were processed concurrently with the samples.

APPENDIX 2

(continued)

Nominal Concentration (mg/l)	Extract Volume (ml)	Dilution (ml)	Theoretical Final Extract Volume (ml)
Control	20.0	-	20.0
0.10	20.0	-	20.0
0.18	20.0	-	20.0
0.32	20.0	-	20.0
0.56	20.0	-	20.0
1.0	20.0	5.0 - 10.0	40.0
1.8	20.0	5.0 - 10.0	40.0
3.2	20.0	5.0 - 25.0	100.0
5.6	20.0	4.0 - 25.0	125.0
10.0	20.0	5.0 - 100.0	400.0

Calibration solutions : 0.51 - 12.13 mg/l Poirenate dissolved in dichloromethane.

Blank solution : Dechlorinated water (200 ml)

Recovery solutions

Fortification Solution Solvent: ethanol		Volume of dechlorinated water (ml)	Prepared concentration (mg/l)
Concentration (mg/l)	Spiking volume (mcl)		
Validation			
100400	200	200	100.4
10050	200	200	10.05
100.5	200	200	0.1005
Procedural			
Day 0 1005	100	200	0.5024
Day 2 1005	100	200	0.5024

APPENDIX 2

(continued)

Gas Chromatographic Conditions

Instrument	:	Hewlett Packard 5890A gas chromatograph in series with an HP 7673 autosampler and a Spectra Physics 4400 computing integrator.
Column	:	10% SE30 on Chromasorb 80-100#; 1.3 m x 3 mm
Injection volume	:	3 mcl
Temperatures		
Oven	:	100°C 170°C at 10°/min
Injector	:	175°C
Detector	:	250°C
Gases		
Carrier		
Nitrogen	:	47 ml/min
Detector		
Air	:	350 ml/min
Hydrogen	:	45 ml/min

Under these conditions Poirenate chromatographed as a single peak with a retention time of 9 minutes.

Poirenate was quantified by peak height.

Calculations

The concentrations of Poirenate in each sample was calculated as follows:

Concentration (mg/l) =

$$\frac{Y-A}{B} \times \frac{C}{D}$$

Where Y = Peak response of sample
A = Intercept derived from linear regression of calibration data
B = Slope derived from linear regression of calibration data
C = Calculated final volume (ml)
D = Sample volume (ml)

APPENDIX 2

(continued)

TABLE C1

Summary of analytical results; acute toxicity of Poirenate to Daphnia study

HRC Reference	Nominal Concentration (mg/l)	Concentration found (mg/l)	Concentration expressed as % of nominal
Day 0 (0 Hours)*			
G92/0082	Untreated	ND	-
G92/0083	0.10	0.073	73
G92/0084	0.18	0.133	74
G92/0085	0.32	0.229	72
G92/0086	0.56	0.371	66
G92/0087	1.0	0.719	72
G92/0088	1.8	1.220	68
G92/0089	3.2	2.096	66
G92/0090	5.6	3.611	64
G92/0091	10.0	7.460	75
Day 2 (48 Hours)*			
G92/0121	Untreated	ND	-
G92/0122	0.56	0.228	41
G92/0123	1.0	0.026	3
(G92/0123)	(1.0)	(0.035)	(4)
G92/0124	1.8	0.660	37
G92/0125	3.2	1.109	35
G92/0126	5.6	2.236	40
G92/0127	10.0	4.281	43

ND None detected (limit of detection for this study 0.01 mg/l)
Results have not been corrected for overall mean recovery value (99 %)
* Age of test media
( ) Analysis of duplicate sample

APPENDIX 2

(continued)

TABLE C2

Recoveries from test media samples fortified with Poirenate

Recovery	Fortification (mg/l)	Recovery
Validation	0.1005	102, 102
	10.05	102, 104
	100.4	105, 105
Procedural		
Day 0	0.5024	99, 94
Day 2	0.5024	88, 92

Mean recovery value: 99%

TABLE C3

Stabilities of test media samples fortified with Poirenate

Fortification (mg/l)	Recovery (%)
10.05	a) 101, 96 b) 96, 100 c) 8, 10

Fortified dechlorinated water stored for 24 hours prior to analysis:

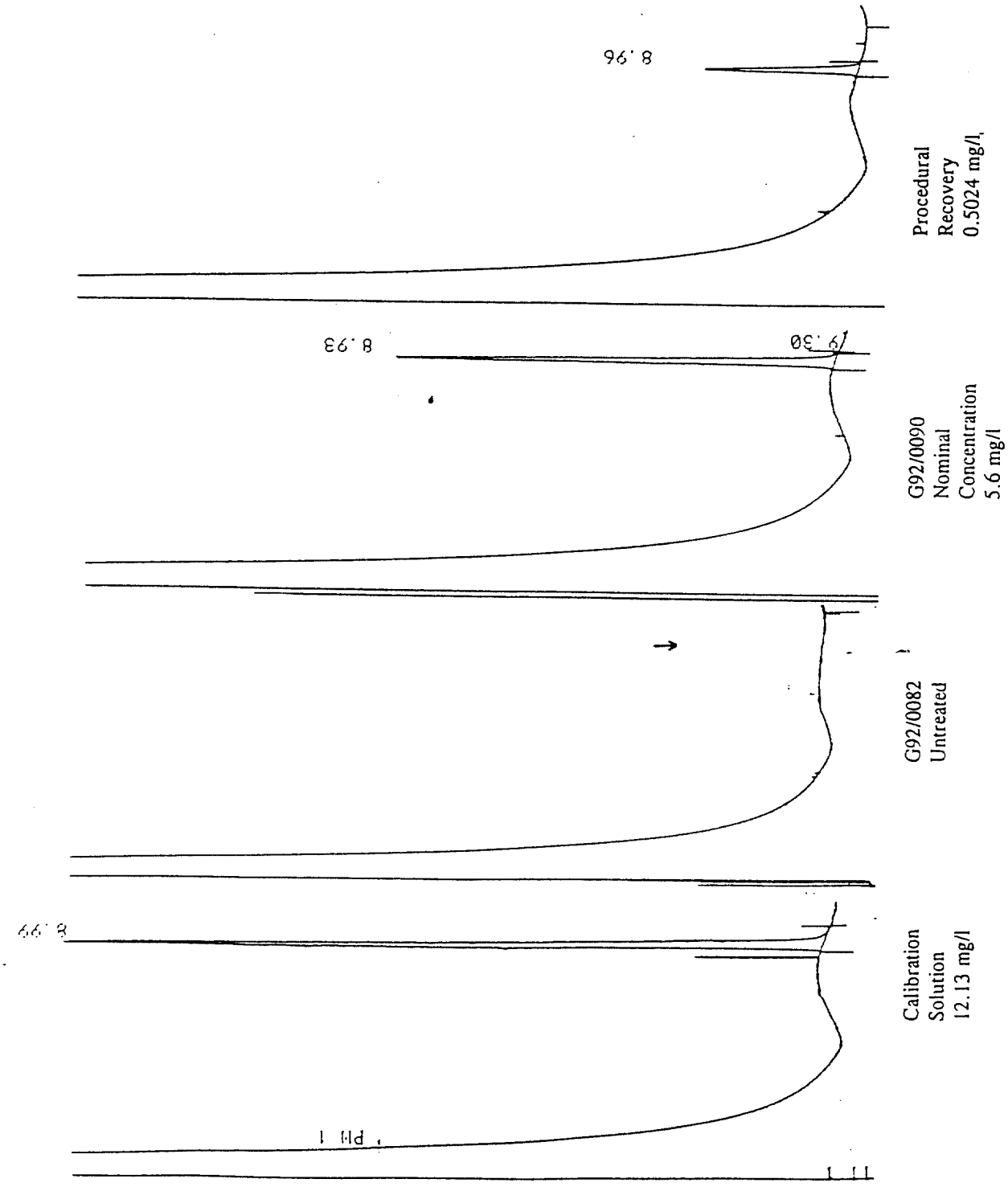
a) in a sealed glass vessel in the dark
b) in a sealed glass vessel in the light
c) in an open glass vessel in the light

APPENDIX 2

(continued)

FIGURE C1

Typical chromatography - Daphnia 0 Hours



APPENDIX 3

Typical water quality characteristics of the municipal supply

QUALITY OF PUBLIC WATER SUPPLIES FOR THE PERIOD 01/01/91 TO 31/12/91

HUNTINGDON NORTH SUPPLY ZONE

ZONE CODE W01W40

NAME OF PARAMETER	UNIT	NUMBER OF VALUES		MEAN VALUE		MAXIMUM OR MINIMUM	TYPE OF STATISTIC
A001 COLOUR	Pt/Co	67	<	2.6		5.6	MAXIMUM
A002 TURBIDITY	FTU	112		0.44		7.1	MAXIMUM
A003 ODOUR (25C)	DilNo	12	<	1.0		1.0	MAXIMUM
A003 HYDRG.SULPHIDE	µg/l	1		0		0	MAXIMUM
A004 TASTE (25C)	DilNo	12	<	1.0		1.0	MAXIMUM
A005 TEMPERATURE	Deg-C	109		13		21	MAXIMUM
A006 HYDROGEN ION	pH	112		7.4		7.7	MAXIMUM
A006 HYDROGEN ION	pH	112		7.4		7.2	MINIMUM
A007 SULPHATE	mg/l	378		230		290	MAXIMUM
A008 MAGNESIUM	mg/l	364		9.0		11	MAXIMUM
A009 SODIUM	mg/l	363		61		82	MAXIMUM
A010 POTASSIUM	mg/l	365		11		13	MAXIMUM
A012 NITRATE AS NO3	mg/l	121		24		45	MAXIMUM
A013 NITRITE AS NO2	mg/l	52	<	0.068		0.25	MAXIMUM
A014 AMMONIUM	mg/l	65	<	0.064		0.29	MAXIMUM
A016 OXIDISABILITY	mg/l	1		1.8		1.8	MAXIMUM
A017 ORGANIC CARBON	mg/l	1		3.9		3.9	MAXIMUM
A018 HYDROCARBONS	µg/l	1		*		*	
A019 PHENOLS (MEAS)	µg/l	1		*		*	
A019 PHENOLS (CALC)	µg/l	1		0		0	MAXIMUM
A020 SURFACTANTS	µg/l	2	<	22		34	MAXIMUM
A021 ALUMINIUM	µg/l	58	<	6.0		40	MAXIMUM
A022 IRON	µg/l	65	<	92		2000	MAXIMUM
A023 MANGANESE	µg/l	67		15		36	MAXIMUM
A024 COPPER	µg/l	8	<	65		330	MAXIMUM
A025 ZINC	µg/l	8	<	7.0		18	MAXIMUM
A026 PHOSPHORUS	µg/l	429	<	890		1400	MAXIMUM
A027 FLUORIDE	µg/l	7		260		270	MAXIMUM
A028 SILVER	µg/l	7		*		*	
B001 ARSENIC	µg/l	7		*		*	
B002 CADMIUM	µg/l	7	<	0.10		0.10	MAXIMUM
B003 CYANIDE	µg/l	5		*		*	
B004 CHROMIUM	µg/l	7		*		*	
B005 MERCURY	µg/l	3		*		*	
B006 NICKEL	µg/l	7		5.3		10	MAXIMUM
B007 LEAD	µg/l	8	<	2.0		7.0	MAXIMUM
B008 ANTIMONY	µg/l	7		*		*	
B009 SELENIUM	µg/l	7		*		*	
P001 ALDICARB	µg/l	10		*		*	
P002 ALDRIN	µg/l	10		*		*	
P004 ATRAZINE	µg/l	36	<	0.11		0.23	MAXIMUM
P005 AZINPHOS-MTHYL	µg/l	36	<	0.021		0.055	MAXIMUM
P008 BROMOXYNIL	µg/l	10	<	0.011		0.016	MAXIMUM
P011 CARBOPH'OTHION	µg/l	39	<	0.020		0.038	MAXIMUM
P013 CHLORFENV'PHOS	µg/l	39		*		*	
P017 CHLORPYRIFOS	µg/l	39		*		*	
P014 CHLOROTOLURON	µg/l	37	<	0.10		0.11	MAXIMUM
P124 DDE (PP')	µg/l	10		*		*	
P125 DDT (PP')	µg/l	10		*		*	
P024 DIAZINON	µg/l	39		*		*	
P025 DICAMBA	µg/l	30	<	0.031		0.050	MAXIMUM
P026 DICHLOROPROP	µg/l	30	<	0.027		0.060	MAXIMUM
P027 DICHLORVOS	µg/l	39		0.020	>	0.020	MAXIMUM
P028 DIELDRIN	µg/l	10		*		*	
P029 DIMETHOATE	µg/l	39		*		*	
P032 DIURON	µg/l	21		*		*	
P033 ENDOSULPHAN	µg/l	10		*		*	
P034 ENDRIN	µg/l	10		*		*	
P036 FENITROTHION	µg/l	39		*		*	
P003 ALPHA - HCH	µg/l	10		*		*	
P041 GAMMA - HCH	µg/l	10	<	0.0068		0.013	MAXIMUM
P043 HEPTACHLOR	µg/l	10	<	0.0063		0.0091	MAXIMUM
P044 HEPTAC.EPOXIDE	µg/l	10		*		*	
P045 HEXACH'BENZENE	µg/l	10		*		*	

CONTINUED ON NEXT PAGE....

* Parameter values below Limit of Detection

APPENDIX 3

(continued)

HUNTINGDON NORTH SUPPLY ZONE ..... CONTINUED

NAME OF PARAMETER	UNIT	NUMBER OF VALUES		MEAN VALUE	MAXIMUM OR MINIMUM	TYPE OF STATISTIC
P049 IOXYNIL	µg/l	10	<	0.011	0.016	MAXIMUM
P047 ISODRIN	µg/l	10		*	*	
P048 ISOPROTURON	µg/l	37	<	0.10	0.13	MAXIMUM
P051 LINURON	µg/l	36		*	*	
P052 MALATHION	µg/l	39		*	*	
P054 MCPA	µg/l	37		*	*	
P055 MCPB	µg/l	37		*	*	
P053 MCPP(MECOPROP)	µg/l	37	<	0.062	0.16	MAXIMUM
P112 MEVINPHOS	µg/l	39	<	0.020	0.031	MAXIMUM
P059 PARATHION	µg/l	38		*	*	
P072 PYRI'OS METHYL	µg/l	39		*	*	
P071 PROPYZAMIDE	µg/l	37	<	0.10	0.13	MAXIMUM
P073 SIMAZINE	µg/l	36	<	0.10	0.21	MAXIMUM
P123 PP'-DDD (TDE)	µg/l	10		*	*	
P074 2,3,6-TBA	µg/l	30	<	0.021	0.050	MAXIMUM
P020 2,4-D	µg/l	30	<	0.032	0.050	MAXIMUM
P076 2,4,5-T	µg/l	30	<	0.031	0.050	MAXIMUM
B010 PESTICIDES TOT	µg/l	39		0.28	0.74	MAXIMUM
B011 P.A.HY'CARBONS	µg/l	1		*	*	
C001 TOT. COLIFORMS	No/dl	116		0.15	17	MAXIMUM
C002 FAEC.COLIFORMS	No/dl	116		0	0	MAXIMUM
C008 COLONY -37C 1D	No/ml	115		3.0	290	MAXIMUM
C007 COLONY -22C 7D	No/ml	116		240	5700	MAXIMUM
C006 CHLORINE TOTAL	mg/l	113		0.23	< 0.050	MINIMUM
D001 CONDUCTIVITY	µS/cm	480		1000	1100	MAXIMUM
D002 CHLORIDE	mg/l	110		85	99	MAXIMUM
D003 CALCIUM	mg/l	365		130	150	MAXIMUM
D004 CHL'FORM EXTR.	mg/l	1		0.0011	0.0011	MAXIMUM
D005 BORON	µg/l	6		480	490	MAXIMUM
D006 BARIUM	µg/l	6		17	20	MAXIMUM
D007 BENZ.34 PYRENE	ng/l	1		*	*	
D008 TETRAC'METHANE	µg/l	10		*	*	
D009 TRICHL'OETHENE	µg/l	10		*	*	
D010 TETRACH'ETHENE	µg/l	10		*	*	
D011 TRIHALO'THANES	µg/l	7		39	54	MAXIMUM
E001 HARDNESS AS CA	mg/l	16		150	140	MINIMUM
E002 ALKA'NITY-HCO3	mg/l	16		150	130	MINIMUM

* Parameter values below Limit of Detection

92 526

TOXICITY DATA SUMMARY (One page for each test)

PMN TYPE: P TD submitted with 8e 14086

PMN YEAR: 92

PMN NUMBER: 526 POLRENATE

REVIEWER: JVN

CHEMICAL CLASS: ester – c8/c2

SPECIES TESTED : Common Name daphnids <24h L 20 mL

Scientific Daphnia magna

TIME	EFFECT TYPE	CONCENTRATION (mg/L)
24h	EC50	
48h	EC50	
72h	EC50	
96h	EC50	
24h	LC50	
(48h)	LC50	1.1
72h	LC50	
96h	LC50	
96h	EC10	
96h	EC90	
96h	NOEC	
96h	LOEC	
96h	GMATC	
96h	LC100	
96h	EC100	
48h	EC10	
48h	EC90	
48h	NOEC ECO	0.300
48h	LOEC LC30	0.530
48h	GMATC	0.400
48h	LC100	5.9
48h	EC100	5.9
~~24h~~	LC35	5.9
~~48h~~	LC95	2.9

ACTIVE INGREDIENT: Convert all effect concentrations to 100% active ingredient.

DT. (100% AI) Unknown

REMARKS : P 99.4%; S,M (GC-FID), %R 99, DL 0.010, M 53% N
Tap + RO FW, dech, act. C fil, H175, pH 7.1, TOC 3.9
S mixed in blender for 1 min;

HRC R# KSP173(b)-920320 (8-1991)