Request for scientific evaluation of "Substantial Equivalence" for Cargill, Incorporated phytosterols/phytostanols intended to be used in specified foods

With a view to support a notification under the procedure laid down in Regulation (EC) No 258/97 of the European Parliament and of the Council of 27 January 1997 concerning novel foods and novel food ingredients

APPENDIX 1

Analysis Reports for Undesirable Substances (as quoted in Table 3 of Proposal Document)

FINAL 16 August 2004



The National Food Laboratory, Inc. 6363 CLARK AVENUE, DUBLIN, CA 94568 (925) 828-1440 FAX: (925) 829-8678

April 29, 2004

Shelly Howarth/ Lea Buerman Cargill NutriProducts 1 Cargill Drive Eddyville, IA 52553

Analytical Report No.: CL3265-9

PO#: 564466

Listed below are the results of our analyses for sample(s) received on April 26, 2004.

Sterols P11809304

NFL ID: AB87793 Heavy Metals Screen	Analyte	Result	Units
	Chromium	1.5	ppm
	Manganese	0.062	ppm
	Iron	1.8	ppm
	Cobalt	<0.01	ppm
	Nickel	<0.01	ppm
	Copper	0.018	ppm
	Zinc	<0.01	ppm
	Arsenic	<0.01	ppm
	Selenium	<0.01	ppm
	Cadmium	<0.01	ppm
	Antimony	<0.01	ppm
	Lead	<0.01	ppm
	Mercury	<0.020	ppm

Sterols P11909604

NFL ID: AB87794

Heavy Metals Screen	Analyte	Result	Units
	Chromium	1.3	ppm
	Manganese	0.046	ppm
	Iron	1.1	ppm
	Cobalt	<0.01	ppm
	Nickel	<0.01	ppm
	Copper	<0.01	ppm
	Zinc	<0.01	ppm
	Arsenic	<0.01	ppm
	Selenium	<0.01	ppm
	Cadmium	<0.01	ppm
	Antimony	<0.01	ppm
	Lead	<0.01	ppm
	Mercury	<0.020	ppm

Shelly Howarth/ Lea Buerman Cargill NutriProducts

Analytical Report No.: CL3265-9

Sterols P12009904

NFL ID: AB87795 Heavy Metals Screen	Analyte	Result	Units
	Chromium	1.7	ppm
	Manganese	0.047	ppm
	Iron	1.4	ppm
	Cobalt	<0.01	ppm
	Nickel	<0.01	ppm
	Copper	0.011	ppm
	Zinc	<0.01	ppm
	Arsenic	<0.01	ppm
	Selenium	<0.01	ppm
	Cadmium	<0.01	ppm
	Antimony	<0.01	ppm
	Lead	<0.01	ppm
	Mercury	<0.020	ppm

Sterols P12110204

Heavy Metals Screen	Analyte	Result	Units
	Chromium	1.9	ppm
	Manganese	0.085	ppm
	Iron	3.5	ppm
	Cobalt	<0.01	ppm
	Nickel	<0.01	ppm
	Copper	<0.01	ppm
	Zinc	<0.01	ppm
	Arsenic	<0.01	ppm
	Selenium	<0.01	ppm
	Cadmium	<0.01	ppm
	Antimony	<0.01	ppm
	Lead	<0.01	ppm
	Mercury	<0.020	ppm





Test Report

1642

Customer:

Cantox Health Sciences International The Science and Technology Centre

University of Reading

RG6 6BZ

Contact

Dr Nigel Baldwin

Report Reference Number:

FSQE/PAH/M6FO - 1056

Date:

3rd August 2004.

Sample:

phytosterol

Date of receipt:

6th July 2004

Method used:

Method FSQ5 SOP 10

Outline of Method:

The samples are fortified with appropriate ¹³C Internal standards and subjected to saponification followed by liquid-liquid extraction. Cleanup is by DMF/cyclohexane partition followed by elution through a silica gel column. Analysis is by

HRGC - LRMS

Issuing officer:

Mr Shaun White, Technical Manager

B

Sand Hutton - York

Y041 1LZ . U.K.

Tel: +44 (0)1904 462000

Fax:+44 (0)1904 462111

Website: www.csl.gov.uk

E-mail: science@csl.gov.uk





Results

CSL Sample No.	10134	10135	10136	10137
Sample Details:	Phytosterol.			Phytosterol,
	3550-61-4	3550-61-5	3550-61-6	3550-61-7
ug/kg whole weight				3330-01-7
acenaphthylene	< 0.07	< 0.07	< 0.07	< 0.07
acenaphthene	0.68	0.84	0.89	
fluorene	0.90		1.46	0.87
phenanthrene	4.24	4.91	5.04	4.39
anthracene	0.12	0.17	0.13	0.14
fluoranthene	0.50	0.49	0.62	0.56
pyrene	0.26	0.23	0.32	0.24
Benzo[ghi]fluoranthene	< 0.02	< 0.02	< 0.02	< 0.02
benz (a) anthracene	< 0.03	< 0.03	< 0.03	< 0.03
Benzo[b]naphtho[2,1-d]thiophene	< 0.03	< 0.04	< 0.04	< 0.03
Cyclopenta[c,d]pyrene	< 0.02	< 0.02	< 0.02	< 0.02
chrysene	< 0.05	< 0.07	< 0.09	< 0.06
5-methylchrysene	< 0.03	< 0.03	< 0.03	< 0.03
benzo[b]fluoranthene	< 0.05	< 0.05	< 0.05	< 0.05
benzo[j]fluoranthene	< 0.02	< 0.02	< 0.02	< 0.02
benzo[k]fluoranthene	< 0.03	< 0.03	< 0.03	< 0.03
benzo[e]pyrene	< 0.1	< 0.09	< 0.07	< 0.11
benzo[a]pyrene	< 0.08	< 0.08	< 0.08	< 0.08
indeno[1,2,3-cd]pyrene	< 0.05	0.08	< 0.05	< 0.05
dibenz[ah]anthracene	< 0.05	< 0.05	< 0.05	< 0.05
benzo-[g,h,i]perylene	0.18	ND	0.14	0.21
Anthanthrene	< 0.1	ND	< 0.1	< 0.1
dibenzo[a,l]pyrene	< 0.1	< 0.1	< 0.1	< 0.1
dibenzo[a,e]pyrene	< 0.1	< 0.1	< 0.1	< 0.1
dibenzo[a,i]pyrene	< 0.1	< 0.1	< 0.1	< 0.1
dibenzo[a,h]pyrene	< 0.1	< 0.1	< 0.1	< 0.1
Coronene	< 0.1	< 0.1	< 0.1	< 0.1

ND = not determined



Quality Control Procedures

In order to demonstrate that adequate confidence can be placed in the results obtained, the following requirements were observed.

Each batch of samples analysed incorporated a certified reference material (CRM458), for which results are compared with certified or assigned data and laboratory performance (indicative) data [1]. The acceptable range of results and the results obtained for the batch CRM are tabulated below. Results for the batch RM all fall within the acceptable range. Each batch of samples analysed included a full reagent blank extract. The contribution from the batch blank was found to be negligible.

CRM458
PAHs in Coconut Oil

Compound	Certified Value(ug/kg)	Uncertainty (ug/kg)	Range (ug/kg)	Batch Reference px2333
Pyrene	9.40	1.5	7.9 - 10.9	9.22
Chrysene	4.90	0.4	4.5 - 5.3	4.47
Benzo[k]fluoranthene	1.87	0.18	1.69 - 2.05	1.74
Benzo[a]pyrene	0.93	0.09	0.84 - 1.02	1.01
Indeno[1,2,3-cd]pyrene	1.00	0.07	0.93 - 1.07	0.93
Benzo[ghi]perylene	0.97	0.07	0.90 - 1.04	0.93



References.

W. Luther, T. Win, H.A.M.G, Vaessen, C.G. Van de Kamp, A.A Jekel, J. Jacob, A. Boenke, 1997, The certification of the mass fraction of Pyrene, Chrysene, Benzo[k]fluoranthene, Benzo[a]pyrene, Benzo[ghi]perylene and Indeno[1,2,3-cd]pyrene in two coconut oil reference materials (CRM458 and CRM459). Report EUR17545EN, Commission of the European Communities, Community Bureau of Reference.

This report has been prepared by CSL after exercise of all reasonable care and skill, but is provided without liability in its application and use. Opinions and interpretation are outside the scope of UKAS accreditation.

05/05/04

To: Lea Buerman

Cargill Nutri-Products, Inc.

Eddyville, IA.

From: Chris Marquardt

Cargill Research - Scientific Resources Center

Wayzata, MN.

Re: Pesticide results for sterol sample

Following are the results of multiresidue pesticide testing on the sterol sample submitted. The screen includes the usual "Luke II" pesticide list (excluding TCMTB) plus some chlorophenoxy acid herbicides including 2,4-D.

Sample ID/description: P11809304, Tall Oil Pitch Sterols

CAS LIMS #: 2407586

No pesticides on the list were found

Sample ID/description: P11909604, Tall Oil Pitch Sterols

CAS LIMS #: 2407587

No pesticides on the list were found

Sample ID/description: P12009904, Tall Oil Pitch Sterols

CAS LIMS #: 2407588

No pesticides on the list were found

Sample ID/description: P12110204, Tall Oil Pitch Sterols

CAS LIMS #: 2407589

No pesticides on the list were found

Spike data:

Pesticide spiked	% Recovery
Atrazine	91
Cyanazine	99
Heptachlor epoxide	101
Dieldrin	94
Bifenthrin	81
Permethrin	83
Phorate	83
Terbufos	80
Chlorpyrifos	85
Malathion	100
Profenophos	108
MCPP	73
MCPA	67
Dichloroprop	77
2,4 - D	76
2,4,5 - TP	81
2,4,5 – T	87
2,4 - DB	79
Methomyl	82
Carbaryl	2

TLI Project: 63144Ar1 Client Sample: P11809304 Toxicity Equivalents Report Analysis File: S041852

Client Project: Sample Matrix: TLI ID:	DIOXIN & PCB ' SOLID 383-46-1	TESTING Date Received: Date Extracted: Date Analyzed:	05/27/04	Spike File: ICal: ConCal:	SP161B2S SF5129B SB41841
Sample Size:	10.020 g	Dilution Factor:	1	% Moisture:	n/a
Dry Weight:	n/a	Blank File:	S041851	% Lipid:	n/a
GC Column:	DB-5	Analyst:	JSY	% Solids:	n/a

Analytes	Conc. (pg/g)		TEF		Equivalent
2,3,7,8-TCDD	{0.07}	x	1.	=	0.07
1,2,3,7,8-PeCDD	{0.08}	x		=	0.08
1,2,3,4,7,8-HxCDD	{0.09}	x	0.1	=	0.009
1,2,3,6,7,8-HxCDD	{0.08}	x	0.1	=	0.008
1,2,3,7,8,9-HxCDD	{0.09}	x	0.1	=	0.009
1,2,3,4,6,7,8-HpCDD	{0.2}	x	0.01	=	0.002
1,2,3,4,6,7,8,9-OCDD	{1.1}	x	0.0001	=	0.00011
2,3,7,8-TCDF	{0.05}	x	0.1	=	0.005
1,2,3,7,8-PeCDF	{0.05}	x	0.05	=	0.003
2,3,4,7,8-PeCDF	{0.06}	x	0.5	=	0.03
1,2,3,4,7,8-HxCDF	{0.05}	x	0.1	=	0.005
1,2,3,6,7,8-HxCDF	{0.05}	x	0.1	=	0.005
2,3,4,6,7,8-HxCDF	{0.05}	x	0.1	=	0.005
1,2,3,7,8,9-HxCDF	{0.08}	x	0.1	=	0.008
1,2,3,4,6,7,8-HpCDF	{0.08}	x	0.01	=	0.0008
1,2,3,4,7,8,9-HpCDF	{0.2}	x	0.01	=	0.002
1,2,3,4,6,7,8,9-OCDF	{0.5}	x	0.0001	=	0.00005
Total WHO Dioxin TEFs fo	or Humans			TEQ	0.24 pg/g

^{....}} indicates that the value is that of a Detection Limit.

Page 1 of 1

GRY_TEF v1.09, MILES 4.22.35

Printed: 17:34 06/04/04

TLI Project: Client Sample: 63144Ar1 P11909604 Toxicity Equivalents Report

Analysis File:

S041853

Client Project: Sample Matrix: DIOXIN & PCB TESTING SOLID Date Re

383-46-2

Date Received:
Date Extracted:

Date Analyzed:

05/21/04 Spike 05/27/04 ICal:

Spike File: SICal: SConCal: SICal: SICONCAL: SICONCAL

SP161B2S SF5129B SB41841

Sample Size: Dry Weight:

GC Column:

TLI ID:

10.000 g n/a DB-5

Dilution Factor Blank File:

Analyst:

S041851 JSY

06/02/04

% Moisture: % Lipid: % Solids:

n/a n/a n/a

Analytes	Conc. (pg/g)		TEF		Equivalent	
2,3,7,8-TCDD	{0.1}	x		=	0.1	
1,2,3,7,8-PeCDD	{0.1}	x		-	0.1	
1,2,3,4,7,8-HxCDD	{0.2}	x	0.1	=	0.02	
1,2,3,6,7,8-HxCDD	{0.2}	x	0.1	=	0.02	
1,2,3,7,8,9-HxCDD	{0.2}	x	0.1	=	0.02	
1,2,3,4,6,7,8-HpCDD	{0.6}	x	0.01	=	0.006	
1,2,3,4,6,7,8,9-OCDD	{1.6}	х	0.0001	=	0.00016	
2,3,7,8-TCDF	{0.07}	x	0.1	=	0.007	
1,2,3,7,8-PeCDF	{0.07}	х	0.05	=	0.004	
2,3,4,7,8-PeCDF	{0.10}	х	0.5	=	0.050	
1,2,3,4,7,8-HxCDF	{0.09}	х	0.1	=	0.009	
1,2,3,6,7,8-HxCDF	{0.10}	x	0.1	=	0.010	
2,3,4,6,7,8-HxCDF	{0.1}	х	0.1	=	0.01	
1,2,3,7,8,9-HxCDF	{0.3}	х	0.1	=	0.03	
1,2,3,4,6,7,8-HpCDF	{0.4}	x	0.01	=	0.004	
1,2,3,4,7,8,9-HpCDF	{0.5}	x	0.01	_	0.005	
1,2,3,4,6,7,8,9-OCDF	{1.2}	x	0.0001	=	0.00012	
Total WHO Dioxin TEFs fo	or Humans			TEQ	0.4 pg/g	

^{...} indicates that the value is that of a Detection Limit.

Page 1 of 1

GRY_TEF v1.09, MILES 4.22.35

Printed: 17:34 06/04/04

TLI Project: 63144Ar1
Client Sample: P12009904

Toxicity Equivalents Report

Analysis File: S041854

DIOXIN & PCB TESTING Client Project: Spike File: Date Received: 05/21/04 **SP161B2S SOLID** Sample Matrix: SF5129B ICal: Date Extracted: 05/27/04 383-46-3 TLI ID: ConCal: SB41841 Date Analyzed: 06/02/04 % Moisture: n/a Dilution Factor: 1 Sample Size: 10.010 g % Lipid: n/a Dry Weight: Blank File: S041851 n/a % Solids: n/a **JSY** GC Column: DB-5 Analyst:

Analytes	Conc. (pg/g)		TEF		Equivalent
3,7,8-TCDD	{0.1}	х			0.1
2,3,7,8-PeCDD	{0.1}	x		=	0.1
,2,3,4,7,8-HxCDD	{0.2}	x	0.1	=	0.02
2,3,6,7,8-HxCDD	{0.2}	x	0.1	=	0.02
2,3,7,8,9-HxCDD	{0.2}	х	0.1	=	0.02
2,3,4,6,7,8-HpCDD	{0.6}	x	0.01	=	0.006
2,3,4,6,7,8,9-OCDD	{2.5}	х	0.0001	=	0.00025
3,7,8-TCDF	{0.07}	x	0.1	=	0.007
2,3,7,8-PeCDF	{0.07}	x	0.05	=	0.004
3,4,7,8-PeCDF	{0.09}	x	0.5	=	0.05
,3,4,7,8-HxCDF	{0.09}	x	0.1	=	0.009
,3,6,7,8-HxCDF	{0.09}	x	0.1	=	0.009
3,4,6,7,8-HxCDF	{0.1}	x	0.1		0.01
2,3,7,8,9-HxCDF	{0.3}	x	0.1	=	0.03
,2,3,4,6,7,8-HpCDF	{0.4}	x	0.01		0.004
2,3,4,7,8,9-HpCDF	{0.5}	x	0.01	=	0.005
,2,3,4,6,7,8,9-OCDF	{1.5}	x	0.0001	=	0.00015
otal WHO Dioxin TEFs fo	or Humans			TEQ	0.4 pg/g

^{...} indicates that the value is that of a Detection Limit.

Page 1 of

GRY_TEF v1.09, MILES

Printed: 7:34 06/04/04

TLI Project: 63144Ar1
Client Sample: P12110204

Toxicity Equivalents Report Analysis File: S041855

Client Project: Sample Matrix: TLI ID:	DIOXIN & PCB T SOLID 383-46-4	Date Received: Date Extracted: Date Analyzed:	05/27/04	Spike File: ICal: ConCal:	SP161B2S SF5129B SB41841
Sample Size:	10.020 g	Dilution Factor:	1	% Moisture:	n/a
Dry Weight:	n/a	Blank File:	S041851	% Lipid:	n/a
GC Column:	DB-5	Analyst:	JSY	% Solids:	n/a

Analytes	Conc. (pg/g)		TEF		Equivalent	
2,3,7,8-TCDD	{0.09}	x		=	0.09	
1,2,3,7,8-PeCDD	{0.1}	x	1.	=	0.1	
1,2,3,4,7,8-HxCDD	{0.2}	х	0.1	=	0.02	
1,2,3,6,7,8-HxCDD	{0.1}	x	0.1	=	0.01	
1,2,3,7,8,9-HxCDD	{0.2}	x	0.1	=	0.02	
1,2,3,4,6,7,8-HpCDD	{0.3}	x	0.01	=	0.003	
1,2,3,4,6,7,8,9-OCDD	{2.0}	x	0.0001	=	0.00020	
2,3,7,8-TCDF	{0.06}	x	0.1	=	0.006	
1,2,3,7,8-PeCDF	{0.06}	x	0.05	=	0.003	
2,3,4,7,8-PeCDF	{0.07}	x	0.5	=	0.04	
1,2,3,4,7,8-HxCDF	{0.07}	x	0.1	=	0.007	
1,2,3,6,7,8-HxCDF	{0.07}	x	0.1	=	0.007	
2,3,4,6,7,8-HxCDF	{0.09}	x	0.1	=	0.009	
1,2,3,7,8,9-HxCDF	{0.2}	x	0.1	=	0.02	
1,2,3,4,6,7,8-HpCDF	{0.2}	х	0.01	=	0.002	
1,2,3,4,7,8,9-HpCDF	{0.3}	х	0.01	=	0.003	
1,2,3,4,6,7,8,9-OCDF	{0.9}	x	0.0001	=	0.00009	
Total WHO Dioxin TEFs fo	or Humans			TEQ	0.3 pg/g	

Total WHO Dioxin TEFs for Humans	TEQ	0.3 pg/g

^{...} indicates that the value is that of a Detection Limit.

Page 1 of 1

GRY_TEF v1.09, MILES 4.22.35

Printed: 17:34 06/04/04

TLI Project:

63144Ar1

Client Sample: **Blank** Toxicity Equivalents Report

Analysis File: S041851

Client Project: Sample Matrix TLI ID:

DIOXIN & PCB TESTING

Conc. (pg/g)

{0.2}

{0.08}

{0.07}

{0.06}

{0.07}

{0.09}

0.42

{0.1}

{0.06}

{0.06}

{0.05}

{0.05}

{0.04}

{0.05}

{0.05}

{0.07}

SOLID Blank

Date Received: 05/21/04 Date Extracted:

05/27/04 Date Analyzed: 06/02/04

TEF

1.

0.1

0.1

0.1

0.01

0.0001

0.1

0.05

0.5

0.1

0.1

0.1

0.1

0.01

0.01

Spike File: ICal: ConCal:

% Solids:

0.0005

0.0007

SP161B2S SF5129B SB41841

Sample Size: Dry Weight:

10.000 g n/a

Dilution Factor: 1 Blank File:

Х

X

Х

х

 \mathbf{x}

 \mathbf{x}

X

X

X

X

X

 \mathbf{x}

X

X

X

х

S041851

=

=

=

=

=

=

=

=

% Moisture: % Lipid:

n/a n/a n/a

GC Column:

Analytes

2,3,7,8-TCDD

2,3,7,8-TCDF

1,2,3,7,8-PeCDF

2,3,4,7,8-PeCDF

1,2,3,4,7,8-HxCDF

1,2,3,6,7,8-HxCDF

2,3,4,6,7,8-HxCDF

1,2,3,7,8,9-HxCDF

1,2,3,4,6,7,8-HpCDF

1,2,3,4,7,8,9-HpCDF

1,2,3,7,8-PeCDD

1,2,3,4,7,8-HxCDD

1,2,3,6,7,8-HxCDD

1,2,3,7,8,9-HxCDD

1,2,3,4,6,7,8-HpCDD

1,2,3,4,6,7,8,9-OCDD

DB-5

Analyst:

ISY

Equivalent 0.2 0.08 0.007 0.006 0.007 0.0009 0.000042 0.01 0.003 0.03 0.005 0.005 0.004 0.005

Total WHO Dioxin TEFs for H	umans		TEQ	0.4 pg/g	
1,2,3,4,6,7,8,9-OCDF	{0.2}	х	0.0001 =	0.00002	

^{...} indicates that the value is that of a Detection Limit.

Page 1 of 1

GRY_TEF v1.09, MILES 4.22.35

Printed: 7:34 06/04/04

Prepared for: Cargill, Health & Food Technologies Reference ID: DIOXIN & PCB TESTING

Project Summary 63144B Method 1668

Concentrations shown in pg/g

	Blank	P11809304	P11909604	P12009904
<u>Analytes</u>				
3,4,4',5-TetraCB (#81)	< 8.7	< 16.8	< 22.6	< 21.0
3,3',4,4'-TetraCB (#77)	< 9.1	< 17.7	< 23.8	< 22.2
2',3,4,4',5-PentaCB (#123)	< 14.3	< 57.6	< 73.3	< 97.7
2,3',4,4',5-PentaCB (#118)	67.2 J	< 56.6	< 72.1	< 96.1
2,3,4,4',5-PentaCB (#114)	< 14.7	< 59.3	< 75.5	< 101
2,3,3',4,4'-PentaCB (#105)	< 16.3	< 65.9	< 84.0	< 112
3,3',4,4',5-PentaCB (#126)	< 19.7	< 79.5	< 101	< 135
2,3',4,4',5,5'-HexaCB (#167)	< 22.9	< 161	< 196	
2,3,3',4,4',5-HexaCB (#156)	< 25.8	< 181	< 220	
2,3,3',4,4',5'-HexaCB (#157)	< 25.0	< 175	< 214	
3,3',4,4',5,5'-HexaCB (#169)	< 35.6	< 250	< 305	
2,3,3',4,4',5,5'-HeptaCB (#189)	< 24.2	< 212	< 229	< 396
Extraction Date	5/26/2004	5/26/2004	5/26/2004	5/26/2004
Analysis Date	6/3/2004	6/3/2004	6/3/2004	6/3/2004
Primary Filename	W095101	W095102	W095103	W095104
Confirm Filename	N/A	N/A	N/A	N/A
Dilution Filename	N/A	N/A	N/A	N/A

man 8/11/04

Data Flag Descriptions:

< Not detected -Sample Specific Detection Limits reported

^[..] EMPC Value

B Analyte detected in Blank

Value reported from Confirmatory Analysis

D Value reported from Dilution Analysis

Estimated Value - Above Calibration Range Estimated Value- Below Calibration Range

N/A Not Applicable

Quantitative Interference Present

Analyte saturated

Interference from Diphenyl Ethers

Prepared for: Cargill, Health & Food Technologies Reference ID: DIOXIN & PCB TESTING

Project Summary 63144B

Method 1668

Concentrations shown in pg/g

P12110204

N/A

Δna	lvtes
Alla	IVICO

3,4,4',5-TetraCB (#81)	< 27.6
3,3',4,4'-TetraCB (#77)	< 29.1
2',3,4,4',5-PentaCB (#123)	< 35.7
2,3',4,4',5-PentaCB (#118)	< 35.1
2,3,4,4',5-PentaCB (#114)	< 36.7
2,3,3',4,4'-PentaCB (#105)	< 40.9
3,3',4,4',5-PentaCB (#126)	< 49.3
2,3',4,4',5,5'-HexaCB (#167)	
2,3,3',4,4',5-HexaCB (#156)	
2,3,3',4,4',5'-HexaCB (#157)	
3,3',4,4',5,5'-HexaCB (#169)	
2,3,3',4,4',5,5'-HeptaCB (#189)	< 272
Extraction Date	5/26/2004
Analysis Date	6/3/2004
Primary Filename	W095105
Confirm Filename	N/A

man 8/11/04

Data Flag Descriptions:

Not detected -Sample Specific Detection Limits reported EMPC Value

Analyte detected in Blank

Dilution Filename

Value reported from Confirmatory Analysis

Value reported from Dilution Analysis

Estimated Value - Above Calibration Range Estimated Value- Below Calibration Range Е

N/A Not Applicable

Quantitative Interference Present

Analyte saturated

Interference from Diphenyl Ethers

summary 2

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