lyondellbasell

RECEIVED
09 MAY 11 AM 6:01

CERTIFIED MAIL

8EHQ-0509-17399A

May 4, 2009

Document Processing Center (7407M)
EPA EAST - Room 6428
Office of Pollution Prevention and Toxics
Environmental Protection Agency
1200 Pennsylvania Avenue, NW
Washington DC 20460-0001

DCN:89090000259

Attention: TSCA 8(e) Coordinator

RE: 8EHQ Number - 8EHQ-09-17399
Final Report–Tertiary butyl alcohol-14 Day Oral Mouse Toxicity Study (CASRN: 75-65-0)

Dear Sir or Madam:

January 21, 2009, Lyondell Chemical Company (Lyondell), a LyondellBasell Industries company, submitted information to EPA in accordance with Section 8(e) of the Toxic Substances Control Act (TSCA) and EPA's 1991 Section 8(e) Reporting Guide because it included findings that EPA may consider reportable. In that correspondence, Lyondell reported preliminary results for Tertiary Butyl Alcohol, CASRN 75-65-0, from a 14 day Oral Mouse Study. The submission was assigned 8EHQ Number 8EHQ-09-17399. At that time, the final report for this study was not available. Lyondell has now received the final report and is hereby providing a copy to EPA.

Lyondell has not made a determination as to whether a significant risk of injury to health or the environment is actually presented by the findings.

A copy of the study final report is attached.

This report is provided to EPA in accordance with Section 8(e) of the Toxic Substances Control Act (TSCA) and EPA's 1991 Section 8(e) Reporting Guide in order to meet Lyondell's obligations under TSCA Section 8(e). Submission of this report to EPA does not confer unto other third parties the right to use this report for product registrations or for other purposes without written permission from Lyondell Chemical Company.

Should you have any questions or require additional details, please do not hesitate to call me at 713-309-7791. I may also be reached by facsimile at 713-951-1574 or by e-mail at betsy.duncan@lyondellbasell.com.

Sincerely,

Betsy Duncan

Contains No CBI

Betsy Duncan
Business Consultant – Chemical Control / Corporate TSCA Coordinator

Attachment - 1

Lyondell Chemical Company
A LyondellBasell Industries Company
One Houston Center, Suite 700
1221 McKinney Street
Houston, Texas 77010

Phone: 713.309.7791
Fax: 713.951.1574
www.lyondellbasell.com

CONTAINS NO CBI

319027

8EHQ-09-17399

Bayer CropScience

TERTIARY BUTANOL

MECHANISTIC 14-DAY TOXICITY STUDY

IN THE MOUSE

(HEPATOTOXICITY AND THYROID

HORMONE INVESTIGATIONS)

DATA REQUIREMENT
No applicable guidelines

REPORT OF STUDY SA 08160
Sponsor identification number: Lynx-PSI N°TXAAX106

STUDY DIRECTOR: O. BLANCK

TESTING FACILITY:

Bayer CropScience
355, rue Dostoïevski
BP 153
06903 Sophia Antipolis Cedex
France

SPONSORS:

LyondellBasell Industries
Weena 737
Rotterdam, 3013AM
Netherlands
and
Evonik Oxeno GmbH
Paul-Baumann-Str. 1
45772 Marl
Germany

STUDY COMPLETED ON: APRIL 02, 2009

SIGNATURES

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

There were no circumstances which affected the quality and integrity of the data.

Pathologist:

Date: April 2nd, 2009

F. SCHORSCH

Study Director:

Date: April 2nd, 2009

O. BLANCK

STUDY PROFESSIONALS

The following professionals were involved in the conduct of this study:

STUDY DIRECTOR	:	O. BLANCK
REPLACEMENT STUDY DIRECTOR	:	H. TINWELL
LABORATORY ANIMAL RESOURCES	:	J.P. KOCWIN
SENIOR CHEMIST	:	L. AMIR TAHMASSEB
TOXICOLOGY SUPERVISOR	:	B. BONNAFOUS
RESPONSIBLE TECHNICIAN	:	S. COLOMBEL
HEPATOTOXICITY INVESTIGATION	:	M. TOTIS
HORMONE ANALYSIS	:	O. BLANCK
PRINCIPAL INVESTIGATOR FOR HORMONE MEASUREMENT	:	B. KECK*
PATHOLOGIST	:	F. SCHORSCH
STATISTICIAN	:	C. PALLEN
Q-PCR INVESTIGATIONS	:	H. LORMEAU-ESPINASSE
PRINCIPAL INVESTIGATOR FOR CONCENTRATION MEASUREMENT OF TERTIARY BUTANOL	:	H. RICAU#
REPORT UNIT ASSISTANT	:	P. ALMERAS

* Ecole Nationale Vétérinaire de Lyon (ENVL) - Laboratoire d'endocrinologie clinique et toxicologique - 1 Avenue Bourgelat - BP83 – 69280 Marcy l'Etoile (FRANCE)

Defitraces - Z.A. des "Andrés" – 150 rue Pré-Magne – 69126 Brindas (FRANCE)

TABLE OF CONTENTS

GOOD LABORATORY PRACTICE COMPLIANCE STATEMENT 2

SIGNATURES 3

STUDY PROFESSIONALS 4

TABLE OF CONTENTS 5

SUMMARY 12

INTRODUCTION 15

MATERIAL AND METHODS 16

1 - Test substance, positive control and dosage formulation 16
- 1.1 Preparation 16
- 1.2 Analysis 16

2 - Animals, housing, diet and water 17
- 2.1 Animals 17
- 2.2 Housing 17
- 2.3 Diet and water 18

3 - Experimental design 18

4 - Daily observations 18

5 - Body weight 19

6 - Food consumption 19

7 - Water consumption 19

8 - Clinical pathology 19
- 8.1 Blood sampling 19

9 - Hormone Investigation 20
- 9.1 Hormone measurement (measurement performed at the ENVL) 20
- 9.2 Data processing (performed at Bayer CropScience) 20

10 - Post mortem examinations 20

11 - Hepatotoxicity testing 21
- 11.1 Total cytochrome P-450 content 21
- 11.2 Enzymatic activities 21

12 - qPCR analysis 22
12.1 Total RNA purification 22
12.2 Quantitative PCR 22
13 - Statistical procedures 23
13.1 Variables analyzed 23
13.2 Statistical methods 24
14 - Data storage 26
RESULTS **28**
1 - Analysis 28
2 - Mortality 28
3 - Clinical signs 28
4 - Body weight 29
5 - Food consumption 29
6 - Water consumption 30
7 - Achieved dosages 30
8 - Hormone analysis 31
9 - Post mortem examinations 32
9.1 Terminal body weight and organ weight 32
9.2 Gross pathology 33
9.3 Microscopic pathology 34
10 - Hepatotoxicity testing 36
10.1 Total cytochrome P-450 content 36
10.2 Enzymatic activities 36
11 - q-PCR analysis 38
CONCLUSION **41**
PROTOCOL DEVIATIONS **44**
REFERENCES **45**
ABBREVIATIONS **46**

TABLES **47**

Table 1 - Summary of clinical signs 47
Tab 1a1 Phenobarbital - 3 Days 48
Tab 1a2 Phenobarbital - 14 Days 50
Tab 1b1 Tertiary butanol - 3 Days 52
Tab 1b2 Tertiary butanol - 14 Days 54
Table 2 - Mean body weights 56
Tab 2a1 Phenobarbital - 3 Days 57
Tab 2a2 Phenobarbital - 14 Days 59
Tab 2b1 Tertiary butanol - 3 Days 61
Tab 2b2 Tertiary butanol - 14 Days 63
Table 3 - Mean body weight gains per interval 65
Tab 3a1 Phenobarbital - 3 Days 66
Tab 3a2 Phenobarbital - 14 Days 68
Tab 3b1 Tertiary butanol - 3 Days 70
Tab 3b2 Tertiary butanol - 14 Days 72
Table 4 - Mean cumulative body weight gains 74
Tab 4a1 Phenobarbital - 3 Days 75
Tab 4a2 Phenobarbital - 14 Days 77
Tab 4b1 Tertiary butanol - 3 Days 79
Tab 4b2 Tertiary butanol - 14 Days 81
Table 5 - Mean food consumption 83
Tab 5a1 Phenobarbital - 3 Days 84
Tab 5a2 Phenobarbital - 14 Days 86
Tab 5b1 Tertiary butanol - 3 Days 88
Tab 5b2 Tertiary butanol - 14 Days 90
Table 6 - Mean water consumption 92
Tab 6a1 Phenobarbital - 3 Days 93
Tab 6a2 Phenobarbital - 14 Days 95
Tab 6b1 Tertiary butanol - 3 Days 97
Tab 6b2 Tertiary butanol - 14 Days 99
Table 7 - Achieved dosages 101

Table 8 - Mean hormone data 103
Tab 8a1.1 Phenobarbital - 3 Days - T3 104
Tab 8a1.2 Phenobarbital - 3 Days - T4 106
Tab 8a1.3 Phenobarbital - 3 Days - TSH 108
Tab 8a2.1 Phenobarbital - 14 Days - T3 110
Tab 8a2.2 Phenobarbital - 14 Days - T4 112
Tab 8a2.3 Phenobarbital - 14 Days - TSH 114
Tab 8b1.1 Tertiary butanol - 3 Days - T3 116
Tab 8b1.2 Tertiary butanol - 3 Days - T4 118
Tab 8b1.3 Tertiary butanol - 3 Days - TSH 120
Tab 8b2.1 Tertiary butanol - 14 Days - T3 122
Tab 8b2.2 Tertiary butanol - 14 Days - T4 124
Tab 8b2.3 Tertiary butanol - 14 Days - TSH 126
Table 9 - Mean absolute and relative organ weights with terminal body weights 128
Tab 9a1 Phenobarbital - 3 Days 129
Tab 9a2 Phenobarbital - 14 Days 131
Tab 9b1 Tertiary butanol - 3 Days 133
Tab 9b2 Tertiary butanol - 14 Days 135
Table 10 - Incidence summary table of gross pathology findings 137
Tab 10a1 Phenobarbital - 3 Days 138
Tab 10a2 Phenobarbital - 14 Days 140
Tab 10b1.1 Tertiary butanol - 3 Days - Unscheduled 142
Tab 10b1.2 Tertiary butanol - 3 Days - Scheduled 144
Tab 10b2 Tertiary butanol - 14 Days 146
Table 11 - Incidence summary table of microscopic pathology findings 148
Tab 11a1 Phenobarbital - 3 Days 149
Tab 11a2 Phenobarbital - 14 Days 151
Tab 11b1.1 Tertiary butanol - 3 Days - Unscheduled 153
Tab 11b1.2 Tertiary butanol - 3 Days - Scheduled 155
Tab 11b2 Tertiary butanol - 14 Days 157
Table 12 - Mean total cytochrome P-450 content 159
Table 13 - Mean ethoxyresorufin O-deethylation in rats 161
Table 14 - Mean pentoxyresorufin O-depentylation in rats 163
Table 15 - Mean benzoxyresorufin O-debenzylation in rats 165

Table 16 - Lauric acid hydroxylation in rats 167

Table 17 - Mean of the relative quantities of the gene transcripts analyzed by quantitative PCR 169

Tab 17a Mean of the relative quantities of the gene transcrips analyzed by quantitative PCR - 3 Days 170

Tab 17b Mean of the relative quantities of the gene transcripts analyzed by quantitative PCR - 14 Days 172

APPENDICES **174**

Appendix A - Individual clinical signs and dead animal status list 174

App. A1a Individual clinical signs - 3 Days 175

App. A1b Individual clinical signs - 14 Days 179

App. A2a Individual death status - 3 Days 183

App. A2b Individual death status - 14 Days 186

Appendix B - Individual body weights 189

App. B1 Individual body weights - 3 Days 190

App. B2 Individual body weights - 14 Days 193

Appendix C - Individual body weight gains per interval 196

App. C1 Individual body weight gains per interval - 3 Days 197

App. C2 Individual body weight gains per interval - 14 Days 200

Appendix D - Individual cumulative body weight gains 203

App. D1 Individual cumulative body weight gains - 3 Days 204

App. D2 Individual cumulative body weight gains - 14 Days 207

Appendix E - Individual food consumption 210

App. E1 Individual food consumption - 3 Days 211

App. E2 Individual food consumption - 14 Days 214

Appendix F - Individual water consumption 217

App. F1 Individual water consumption - 3 Days 218

App. F2 Individual water consumption - 14 Days 221

Appendix G - Individual hormone levels 224

App. G1a Individual hormone levels - 3 Days - T3 225

App. G1b Individual hormone levels - 3 Days - T4 228

App. G1c Individual hormone levels - 3 Days - TSH 231

App. G2a Individual hormone levels - 14 Days - T3 234

App. G2b Individual hormone levels - 14 Days - T4 237

App. G2c Individual hormone levels - 14 Days - TSH 240

Appendix H - Individual absolute organ weights with terminal body weights 243

App. H1 Individual absolute organ weights with terminal body weights - 3 Days 244

App. H2 Individual absolute organ weights with terminal body weights - 14 Days 247

Appendix I - Individual organ to body weight ratios with terminal body weights 250

App. I1 Individual organ to body weight ratios with terminal body weights - 3 Days 251

App. I2 Individual organ to body weight ratios with terminal body weights - 14 Days 254

Appendix J - Individual organ to brain weight ratios with terminal body weights 257

App. J1 Individual organ to brain weight ratios with terminal body weights - 3 Days 258

App. J2 Individual organ to brain weight ratios with terminal body weights - 14 Days 261

Appendix K - Individual gross and microscopic pathology findings 264

App. K1 Individual gross and microscopic pathology findings - 3 Days 265

App. K2 Individual gross and microscopic pathology findings - 14 Days 326

Appendix L - Incidence of microscopic pathology findings with individual animal numbers 387

App. L1 Incidence of microscopic pathology findings with individual animal numbers - 3 Days 388

App. L2 Incidence of microscopic pathology findings with individual animal numbers - 14 Days 391

Appendix M Hormonal report 393

Appendix N Total cytochrome P-450 content and specific activities 413

Appendix O Individual quantitative PCR data 417

App. O1 Individual quantitative PCR data - 3 Days 418

App. O2 Individual quantitative PCR data - 14 Days 443

Appendix P Analytical reports 468

Appendix Q Statistical report 497

ATTACHMENTS **508**

Attachment 1 - Protocol and amendments 508

Attachment 2 - Certificates of analysis 529

END OF REPORT **531**

SUMMARY

Tertiary butanol (substance synonym: t-butyl alcohol, batch number HL80417001: a clear, colorless liquid, 99.58% (weight %) purity) was administered continuously via the drinking water to groups of 15 female B6C3F1 mice for at least 3 or 14 days at concentrations of 0, 2 and 20 mg/ml (equating approximately to 0, 344 and 818 mg/kg body weight/day for the 3 day exposure groups and 0, 418 and 1616 mg/kg body weight/day for the 14 day exposure groups), respectively. An additional group of 15 female mice received 80 mg/kg body weight /day of Phenobarbital (suspension w/v in 0.5% aqueous solution of methylcellulose) by oral gavage once per day (10 ml/kg) and acted as a positive control group. Animals were observed at least daily for clinical signs and twice daily for mortality. Detailed physical examinations were performed weekly. Body weight and water and food consumptions were recorded once weekly. In addition, animals were weighed at final sacrifice. Before necropsy a blood sample was collected from the abdominal aorta of each animal for thyroid hormone level determinations (TSH, T3 and T4). All animals were subjected to necropsy; liver and brain were weighed (at final sacrifice). The thyroid and a portion of the liver were fixed and examined microscopically. Small pieces of liver from each animal were used for gene expression analyses by quantitative Polymerase Chain Reaction (qPCR). The remaining portions of the liver were homogenized for microsomal preparations in order to determine cytochrome P-450 specific isoenzyme profiles.

One animal from group 4 (ST4F3098; 3-day exposure) was found dead on Day 3 without any significant macroscopic findings. This death was judged not to be treatment-related.

Phenobarbital

3 days of treatment

Treatment-related clinical signs consisted of uncoordinated movements for all animals over the entire study period.

Mean water consumption was reduced by 13% between study day 1 and 4.

Mean T3 concentrations were decreased by 12% ($p \leq 0.01$) compared to the control group. Mean T4 concentrations were decreased by 34% ($p \leq 0.01$) compared to the control group. Mean TSH concentrations were slightly increased by 12% (not statistically significant) compared to the control values.

At necropsy, mean absolute and relative liver weights were increased by 13% ($p \leq 0.01$) and 14% ($p \leq 0.01$) when compared to the control group. Microscopic examination revealed a slight tendency toward minimal to slight diffuse centrilobular hepatocellular hypertrophy. This change was associated with a tendency toward higher number of mitoses in some rats.

The assessment of the P-450 isoenzyme activities revealed a marked increase in mean total cytochrome P450 content (+130%), a moderate increase in PROD activity (+678%) and a marked increase in BROD activity (+6976%) when compared to the control values.

Quantitative PCR analyses of transcripts of genes revealed a slight down-regulation of Cyp1a1 transcripts (-37%) and a marked up-regulation of Cyp2b10 and Cyp3a11 transcripts (+2012% and +187%; respectively). Sulfotransferases and UDP glucoronosyltransferases transcripts were up-regulated (ranging from +46% to +295% and from +83% to +110%; respectively) with the exception of Ugt2b5.

14 days of treatment

Treatment-related clinical signs consisted of uncoordinated movements for all animals over the entire study period.

Mean body weight was reduced by between 3.8% (not statistically significant) and 4.7% ($p \leq 0.05$) during the second week of the study. Mean body weight gain/day was 0.01 g ($p \leq 0.01$) compared with 0.14 g in the controls between study days 1 and 8. Thereafter, mean body weight gain/day was comparable to the control values. Overall cumulative body weight gain was reduced by 77% ($p \leq 0.01$) over the entire study period.

Mean water consumption was reduced by 25% between study day 1 and 8 and by 16% between study day 8 and 15.

Mean T3 concentrations were decreased by 21% ($p \leq 0.01$) compared to the control group. Mean T4 concentrations were decreased by 48% ($p \leq 0.01$) compared to the control group. Mean TSH concentrations were comparable to the control values.

At necropsy, mean absolute and relative liver weights were increased by 13% ($p \leq 0.01$) and 20% ($p \leq 0.01$) when compared to the control group. At the macroscopic examination enlarged livers were found in 13/15 animals. Microscopic examination revealed a slight tendency toward minimal to slight diffuse centrilobular hepatocellular hypertrophy.

The assessment of the P-450 isoenzyme activities revealed a marked increase in mean total cytochrome P450 content (+132%), a moderate increase in PROD activity (+710%) and a marked increase in BROD activity (+7075%) when compared to the control values.

Quantitative PCR analyses of transcripts of genes known to be implicated in the hepatic inactivation of thyroid hormones revealed a slight down-regulation of Cyp1a1 transcripts (-25%) and a marked up-regulation of Cyp2b10 and Cyp3a11 transcripts (+3201% and +113%; respectively). Sulfotransferases and UDP glucoronosyltransferases transcripts were up-regulated (ranging from +58% to +825% and from +29% to +83%; respectively) with the exception of Ugt2b5.

Tertiary butanol

3 days of treatment

No clinical signs were observed during the course of the study.

At 20 mg/ml, mean water consumption was reduced by 78% between study day 1 and 4.

At 20 mg/ml, mean TSH concentrations were increased by 18% (not statistically significant) compared to the control values. At 2 mg/ml, no changes were observed.

Tertiary butanol induced no change in mean total cytochrome P-450 content and in enzymatic activities EROD, PROD, BROD and LAH at both dose levels.

Tertiary butanol induced no change in gene transcripts using Quantitative PCR analyses.

14 days of treatment

No treatment-related clinical signs were observed during the course of the study.

Mean body weight gain/day was comparable (between study day 1 and 8) or higher (between study day 8 and 15; +140% at 2 mg/ml and +120% at 20 mg/ml) than the control values at both dose levels.

At both dose levels, mean food consumption was reduced by 5.8% (not statistically significant) between study day 8 and 15.

At 20 mg/ml, mean water consumption was reduced by 65% over the entire study period. At 2 mg/ml, mean water consumption was reduced by 8% between study day 1 and 8 and by 12% between study day 8 and 15.

Mean T3 concentrations were decreased by 12% ($p \leq 0.01$) and 13% ($p \leq 0.01$) compared to the control group, respectively at 2 mg/ml and 20 mg/ml. Mean T4 concentrations were decreased by 15% ($p \leq 0.01$) and 22% ($p \leq 0.01$) compared to the control group, respectively at 2 mg/ml and 20 mg/ml.

At the macroscopic examination enlarged livers were found in 3/15 animals at both dose levels. Microscopic examination revealed a slight tendency toward minimal to slight diffuse centrilobular hepatocellular hypertrophy at 20 mg/mL.

The assessment of the P-450 isoenzyme activities revealed a slight increase in mean total cytochrome P450 content (+56%), a slight increase in PROD activity (+109%) and a moderate increase in BROD activity (+1129%) at the highest dose 20 mg/ml only.

At 20 mg/ml, quantitative PCR analyses of transcripts of genes revealed a slight up-regulation of Cyp2b9 transcripts (+21%) and a marked up-regulation of Cyp2b10 transcripts (+2085%). Sulfotransferase Sult 1a1 transcripts were slightly up-regulated (+28%).

At 2 mg/ml, quantitative PCR analyses of transcripts of genes revealed a slight up-regulation of Cyp2b10 transcripts (+68%). Sulfotransferase Sult 1a1 transcripts were slightly up-regulated (+20%).

No thyroid effects were observed at both time points for both Phenobarbital and tertiary butanol.

In conclusion, tertiary butanol appears to be a weak liver enzyme inducer in the B6C3F1 mice (weaker than Phenobarbital). The induction was specific for the CYP 2b10 enzyme, with a minor increase in CYP 2b9. Tertiary butanol also induced the Phase II enzyme Sulfuryltransferase 1a1, which is involved in the thyroid hormone homeostasis.

INTRODUCTION

The objective of this study was to investigate the mode of action of tertiary butanol with respect to the thyroid tumors that were observed in the mouse oncogenicity study (clear effects in the females, equivocal evidence in the males). The potential effects of tertiary butanol on the thyroid and liver following continuous drinking water administration for 3 or 14 days were determined in female mice.

This study was a preliminary study and was not designed to meet regulatory requirements.

The study protocol and its amendments are presented in Attachment 1.

The study time schedule was as follows:

Study initiation date *	August 25, 2008
Sponsor protocol approval date	August 26, 2008
Animal arrival date	August 27, 2008
Experimental starting date	August 27, 2008
Randomization date (Day -1)	September 02, 2008
Dosing dates	September 04 to September 08, 2008 (SG1, 3-Day exposure) September 05 to September 09, 2008 (SG2, 3-Day exposure) September 03 to September 18, 2008 (SG1, 14-Day exposure) September 04 to September 19, 2008 (SG2, 14-Day exposure)
Final sacrifice dates	September 08 to 09, 2008 (3-Day exposure) September 18 to 19, 2008 (14-Day exposure)
Experimental completion date	January 12, 2009

* Date of protocol approval by Study Director.

MATERIAL AND METHODS

1 - TEST SUBSTANCE, POSITIVE CONTROL AND DOSAGE FORMULATION

Tertiary Butanol, a non-metabolized alcohol (batch number HL80417001: a clear, colorless liquid (or solid depending on the room temperature), 99.58% purity) was used throughout the study. Information on the chemical characterization of the test substance was documented by Lyondell Chemical Company, Houston, USA and is presented in Attachment 2. The test substance was stored in an air-tight, light-resistant container at room temperature.

Phenobarbital (batch number 06100228: a white powder, 99.6% purity) was used as a positive control in the study. Phenobarbital is known to affect thyroid gland in rodents via an indirect mechanism based on liver enzyme induction. Information on the chemical characterization of the test substance was documented by the supplier (Cooper, Melun, France) and is presented in Attachment 2. Phenobarbital was stored in an air-tight, light-resistant container at room temperature.

1.1 Preparation

The test substance was incorporated into the drinking water to provide the required concentrations. There was one preparation for each concentration. When not in use, the solutions were stored at approximately +4°C.

Phenobarbital was suspended in 0.5% methylcellulose in sterilized water to produce the required dosing concentration (w/w). There was one preparation. When not in use, the suspension was stored at approximately +4°C.

1.2 Analysis

Tertiary Butanol (analyses performed at Défitraces laboratory)

Solutions of the test substances were verified for each concentration.

The stability of the solutions was determined in a separate study (No. 08-902017-003, Appendix P) at concentrations of 0.2 and 2% m/v. Concentrations were obtained from an analytical quantification.

Phenobarbital (analyses performed at Bayer CropScience)

The homogeneity of Phenobarbital in 0.5% aqueous suspension of methylcellulose was verified to demonstrate adequate formulation procedures. The stability of phenobarbital in aqueous methylcellulose was demonstrated in a previous study (1) at 8 g/L for a time period that covers the period of storage and usage of the current study. The mean values obtained from the homogeneity check were used as measured concentrations.

2 - ANIMALS, HOUSING, DIET AND WATER

2.1 Animals

One hundred and thirty female B6C3F1 mice were obtained from Harlan Laboratories, Gannat, France.
The animals were acclimatized to laboratory conditions for 7 days prior to the treatment and were 7 to 10 weeks old at the beginning of treatment.

a/Selection and randomization

All animals were examined during the acclimatization phase. The day before the test substance administration, all animals were weighed. An automatic procedure (XMS Path/Tox V 4.2.2.) was used to select animals for the study from the middle of the weight range of the available animals. Animals were allocated to groups using a randomization procedure that ensured a similar body weight distribution among groups. One hundred and twenty female mice were selected for the study. Selected animals were in a weight range from 19.7 to 23.5 g for the females of the 3-day exposure groups and 18.7 to 22.1 g for the females of the 14-day exposure groups at the start of the exposure to the test substance, i.e. within 20% of the mean body weight. The animals not used in the study were maintained as stock animals within the animal facility.

b/Identification

Following randomization, animals were assigned permanent identification numbers within groups. Each animal was identified by a stainless steel ear tag bearing a unique four-digit animal number.

2.2 Housing

Mice were housed individually in suspended, stainless steel, wire-mesh cages. The cage of each animal was identified by a card bearing a unique identification number. The temperature, humidity and lighting in the animal room were constantly monitored by an automatic system.

The target specifications were:

- temperature: 20°C- 24°C
- humidity: 40-70%
- lighting: 12-hour light, 12-hour dark cycles (7 am - 7 pm)

The ventilation system in the animal room was maintained to ensure adequate ventilation, with the performance of the system regularly checked for a target specification of 10 to 15 air changes per hour.

There were no deviations from target specifications which could have compromised the study.
Housing data are placed in the study file.

2.3 Diet and water

Certified rodent pelleted and irradiated diet A04C-10 from S.A.F.E. (Scientific Animal Food and Engineering, Augy, France) and filtered and softened water from the municipal water supply were available *ad libitum*. Routine analyses of feed and water indicated that there was no contamination which could have compromised the study.

3 - EXPERIMENTAL DESIGN

Groups of 15 female mice were given untreated drinking water or the appropriate concentrations of tertiary butanol. An additional group received Phenobarbital (suspension w/v in 0.5% aqueous solution of methylcellulose) by oral gavage once per day (10ml/kg) at 80 mg/kg/day.

Details of group sizes and treatment:

GROUP	DURATION OF EXPOSURE	TEST SUBSTANCE	DOSE LEVELS	NUMBER OF ANIMALS PER GROUP	ANIMAL IDENTITY	
FEMALES					SG1 (Sept. 04, 2008)	SG2 (Sept. 05, 2008)
1	3 Days	Phenobarbital	80 mg/kg/day	15	ST1F3039 to 3047	ST1F3048 to 3053
2	3 Days	Control	0	15	ST2F3054 to 3059	ST2F3060 to 3068
3	3 Days	TERTIARY BUTANOL	2 mg/mL	15	ST3F3069 to 3077	ST3F3078 to 3083
4	3 Days		20 mg/mL	15	ST4F3084 to 3089	ST4F3090 to 3098
FEMALES					SG1 (Sept. 03, 2008)	SG2 (Sept. 04, 2008)
1	14 Days	Phenobarbital	80 mg/kg/day	15	ST1F3099 to 3107	ST1F3108 to 3113
2	14 Days	Control	0	15	ST2F3114 to 3119	ST2F3120 to 3128
3	14 Days	TERTIARY BUTANOL	2 mg/mL	15	ST3F3129 to 3137	ST3F3138 to 3143
4	14 Days		20 mg/mL	15	ST4F3144 to 3149	ST4F3150 to 3158

SG: Sub Group

4 - DAILY OBSERVATIONS

All animals were checked for moribundity and mortality twice daily (once daily on weekends or public holidays). Animals were observed for clinical signs at least once daily. Detailed physical examinations were performed at least weekly during the treatment period. The nature, onset, severity, reversibility and duration of clinical signs were recorded. Cages and cage-trays were inspected daily for evidence of ill-health such as blood or loose feces.

5 - BODY WEIGHT

Each animal was weighed twice during the acclimatization period, on the first day of test substance administration, then on Day 8 (14-day exposure groups) and before necropsy.

6 - FOOD CONSUMPTION

The weight of food supplied and of that remaining at the end of the food consumption period was recorded on the first day of test substance administration, then on Day 8 (14-day exposure groups) and before necropsy.

7 - WATER CONSUMPTION

The weight of water supplied and of that remaining at the end of the water consumption period was recorded on the first day of test substance administration (all groups), then on Day 8 (14-day exposure groups) and before necropsy (all groups).

The group mean achieved dosage, expressed as mg/kg body weight/day, was calculated for each weighing period and the overall mean subsequently derived for Days 1-15 using the following formula:

The mean achieved dosage intake in mg/kg body weight/day for each period and for Weeks 1 to 2 was calculated using the formula:

$$\text{Test substance intake (mg/kg/day)} = \frac{\text{Dose level (mg/ml) x Group mean water consumption (g/day) x 1000}}{\text{Group mean body weight (g) at the end of the water consumption period}}$$

8 - CLINICAL PATHOLOGY

8.1 Blood sampling

On the day of necropsy, blood samples were taken from all surviving animals in all groups from the abdominal aorta. Animals were anesthetized by inhalation of Isoflurane (Baxter, Maurepas, France) prior to bleeding. Blood was collected on lithium heparin for hormone level evaluation.

9 - HORMONE INVESTIGATION

9.1 Hormone measurement (measurement performed at the ENVL)

At each blood sampling time, plasma samples were prepared and kept frozen at approximately -80°C until sending off to the principal investigator for hormone measurement. Samples were then sent frozen to the ENVL for the determination of TSH, T4 and T3 hormone levels with specific radio-immunoassay kits (supplied by Amersham for TSH and by Diasorin for T3 and T4).

9.2 Data processing (performed at Bayer CropScience)

The raw data obtained from the Principal Investigator were transferred and processed in the Testing Facility using Path/Tox System V 4.2.2. (Module Enhanced Statistics).

10 - POST MORTEM EXAMINATIONS

On study Days 5 and 16, all surviving animals from all groups were sacrificed by exsanguination under deep anesthesia by inhalation of Isoflurane. An approximately equal number of animals randomly distributed amongst all groups were sacrificed on each day. Animals were not diet fasted overnight prior to sacrifice.

One animal (ST4F3098 from the 3-day exposure group 4 (tertiary butanol 20 mg/mL)) found dead was necropsied. The necropsy included the examination of all major organs, tissues and body cavities. Macroscopic abnormalities were recorded but not sampled.

At scheduled sacrifice, brain and liver were weighed fresh.

A piece of median and left lobes of the liver of 5 animals selected randomly in each group and the thyroid gland of all animals were sampled for histopathological examination.

Tissue samples were fixed by immersion in neutral buffered 10% formalin and were embedded in paraffin wax. Histological sections, stained with hematoxylin and eosin, were prepared and histopathological examinations were performed on all prepared tissues from all animals selected.

11 - HEPATOTOXICITY TESTING

At scheduled sacrifice in each group, the remaining portions of the liver of one animal also used for microscopic examination and the entire liver of two others were pooled by group and homogenized for microsomal preparations. Total cytochrome P-450 content and specific cytochrome P-450 isoenzyme profile were determined to check the hepatotoxic potential of the test substance. Each pool and group was identified as follow:

1FA to 1FE: Phenobarbital – 3 days of treatment
2FA to 2FE: Control – 3 days of treatment
3FA to 3FE: Tertiary butanol 2 mg/ml - 3 days of treatment
4FA to 4FE: Tertiary butanol 20 mg/ml - 3 days of treatment

1FF to 1FJ: Phenobarbital – 14 days of treatment
2FF to 2FJ: Control – 14 days of treatment
3FF to 3FJ: Tertiary butanol 2 mg/ml - 14 days of treatment
4FF to 4FJ: Tertiary butanol 20 mg/ml – 14 days of treatment

11.1 Total cytochrome P-450 content

Total cytochrome P-450 content in microsomal preparations was determined by spectrophotometry using a reduced CO differential spectrum. A single quantification was performed for each pool.

11.2 Enzymatic activities

Cytochromes P-450 and their induction:

Family	Enzymatic activity	Activity	Typical inducing agents
CYP 1A1 1A2	} EROD	activation of mutagens and carcinogens	β-naphtoflavone
CYP 2 2B1 2B2	} PROD	detoxication of drugs and chemicals	phenobarbital
2E		activation of nitrosamines	isoniazid
CYP 3A1 & 3A2	BROD	detoxication of drugs and chemicals	pregnenolone 16 α - carbonitrile phenobarbital
CYP 4A	LAURIC ACID HYDROXYLATION	peroxisomal proliferation	clofibric acid

Specific cytochrome P-450 enzymatic activities were evaluated by spectrofluorimetry using the following substrates:

- benzoxyresorufin (BROD)
- ethoxyresorufin (EROD)
- pentoxyresorufin (PROD)

and by HPLC using fluorimetric detection following derivatization by 4-(bromomethyl)-7 methoxycoumarin of 12-hydroxy-lauric acid (lauric acid used as substrate). Ethoxyresorufin is a highly selective substrate for the isoform 1A, the isoform 2B metabolizes preferentially the O-dealkylation of pentoxyresorufin, while the benzoxyresorufin O-debenzylation is mainly metabolized by the isoform 3A. Cytochrome P-450 dependent dealkylation of resorufin derivatives was followed over a period of 2, 5 or 7 minutes at 37°C.
Samples were prepared to follow the hydroxylation of lauric acid by the isoform 4A over a period of 10 minutes at 37°C. Two replicates of each incubation mixture were collected. One replicate was analyzed; the other one was stored frozen. 12-hydroxylauric acid was quantified in the incubation mixtures using the method N° ANL/046-94E (2).

12 - QPCR ANALYSIS

12.1 Total RNA purification

Total cytoplasmic RNA was isolated from the liver of individual control and treated animals using RNeasy Mini kits (Qiagen). Total RNAs were quantified by a spectrophotometer Nano Drop (Agilent Technologies). RNA quality controls were performed based on the ribosomal RNA electrophoretic profiles using a Bioanalyser (Agilent Technologies).

12.2 Quantitative PCR

Five µg of total RNA was used for Reverse transcription (RT) using a High Capacity cDNA Archive kit (Applied Biosystems). The assay was performed in duplicate using Taqman assays (Assay on demand, Applied Biosystems), 1/50 diluted first strand cDNA, AmpliTaq Gold® PCR Master Mix on an ABI prism 7900 HT machine (Applied Biosystems). For each gene transcript measured, a negative control condition was included in which H2O MQ was used as template instead of first strand cDNA.

The list of Taqman assays used was as follows:

Gene family	Isoform	Refset ID	Taqman assay ID (Applied Biosystems)
Cytochrome P450	Cyp1a1	NM_009992.3	Mm00487218_m1
Cytochrome P450	Cyp2b9	NM_010000.2	Mm00657910_m1
Cytochrome P450	Cyp2b10	NM_009999.3	Mm00456588_mH
Cytochrome P450	Cyp3a11	NM_007818.3	Mm00731567_m1
Sulfotransferase	Sulta1	NM_133670.1	Mm00467072_m1
Sulfotransferase	Sulta2	NM_009286.1	Mm02394381_g1
Sulfotransferase	Sultn	NM_016771.2	Mm00502030_m1
UDP glucuronosyltransferase	Ugt1a1	NM_201645.2	Mm02603337_m1
UDP glucuronosyltransferase	Ugt2b1	NM_152811.1	Mm00514184_m1
UDP glucuronosyltransferase	Ugt2b5	NM_009467.1	Mm01623253_s1
Beta-2 microglobulin	B2m	NM_009735.3	Mm00437762_m1

Beta-2 microglobulin (B2m) was selected as reference gene for the quantitative calculations of transcripts. The relative quantity (RQ) value of each test transcript was calculated using the following formula:

$\Delta\Delta Ct = (Cttest - CtB2m)\ treated - (Cttest - CtB2m)\ control$

$RQ = 2^{-\Delta\Delta Ct}$

where Ct is the threshold cycle at which PCR amplification started to be significantly different from the background signal. Each RQ value obtained for a given gene was normalized by dividing by the RQ value obtained for the control animal ST2F3055 (3 days of treatment) or ST2F3114 (14 days of treatment).

13 - STATISTICAL PROCEDURES

13.1 Variables analyzed

- body weight and body weight gain parameters
- food and water consumption
- organ weight parameters
- hormonal parameters
- total cytochrome P450 content
- hepatic enzymatic activities
- quantity of gene transcripts

13.2 Statistical methods

Mean and standard deviation was calculated for each group.

- Body weight gain/day parameters
  Terminal body weight, absolute and relative organ weight parameters

Mean and standard deviation were calculated for each group and per time period for body weight gain/day parameters.

Comparison between the Phenobarbital treated group and the control group:
The F test was performed to compare the homogeneity of group variances.

If the F test was not significant ($p>0.05$), mean of the exposed group was compared to the mean of the control group using the t-test (2-sided).

If the F test was significant ($p\leq0.05$), mean of the exposed group was compared to the mean of the control group using the modified t-test (2-sided).

Comparison between the Tertiaryl butanol treated groups and the control group:
The Bartlett test was performed to compare the homogeneity of group variances.

If the Bartlett test was not significant ($p>0.05$), means were compared using the analysis of variance (ANOVA). If the ANOVA was not significant ($p>0.05$), the group means were considered to be homogeneous and no further analysis was performed. If the ANOVA was significant ($p\leq0.05$), means of the exposed groups were compared to the mean of the control group using the Dunnett test (2-sided).

If the Bartlett test was significant ($p\leq0.05$), group means were compared using the non parametric Kruskal-Wallis test. If the Kruskal-Wallis test was not significant ($p>0.05$), the group means were considered to be homogeneous and no further analysis will be performed. If the Kruskal-Wallis test was significant ($p\leq0.05$), means of the exposed groups were compared to the mean of the control group using the Dunn test (2-sided).

- Body weight and average food and water consumption/day parameters
  Hormonal parameters
  Total cytochrome P450 content

Mean and standard deviation were calculated for each group and per time period for average food and water consumption/day parameters.

Comparison between the Phenobarbital treated group and the control group:

The F test was performed to compare the homogeneity of group variances.

When the F test was not significant ($p>0.05$), mean of the exposed group was compared to the mean of the control group using the t-test (2-sided). When the F test was significant ($p\leq0.05$), data were transformed using the log transformation. When the F test on log transformed data was not significant ($p>0.05$), mean of the exposed group was compared to the mean of the control group using the t-test (2-sided) on log transformed data. If the F test was significant ($p\leq0.05$), even after log transformation, mean of the exposed group was compared to the mean of the control group using the modified t-test (2-sided).

Comparison between the Tertiaryl butanol treated groups and the control group:

The Bartlett test was performed to compare the homogeneity of group variances.

When the Bartlett test was not significant ($p>0.05$), means were compared using the analysis of variance (ANOVA). If the ANOVA was not significant ($p>0.05$), the group means were considered to be homogeneous and no further analysis was performed. When the ANOVA was significant ($p\leq0.05$), means of the exposed groups were compared to the mean of the control group using the Dunnett test (2-sided). When the Bartlett test was significant ($p\leq0.05$), data were transformed using the log transformation. When the Bartlett test on log transformed data was not significant ($p>0.05$), means were compared using the ANOVA on log transformed data. When the ANOVA on log transformed data was not significant ($p>0.05$), the group means were considered to be homogeneous and no further analysis was performed. If the ANOVA on log transformed data was significant ($p\leq0.05$), means of the exposed groups were compared to the mean of the control group using the Dunnett test (2-sided) on log transformed data. If the Bartlett test was significant ($p\leq0.05$), even after log transformation, group means were compared using the non parametric Kruskal-Wallis test. If the Kruskal-Wallis test was not significant ($p>0.05$), the group means were considered to be homogeneous and no further analysis was performed. If the Kruskal-Wallis test was significant ($p\leq0.05$), mean of each exposed group was compared to the mean of the control group using the exact Mann-Whitney test (2-sided).

- Hepatic enzymatic activities

Comparison between the Phenobarbital treated group and the control group:

For each substrate of enzymatic activity, group means was compared using the exact non parametric Mann-Whitney test (2-sided).

Comparison between the Tertiaryl butanol treated groups and the control group:

For each substrate of enzymatic activity, means were compared using the non parametric Kruskal-Wallis test. If the Kruskal-Wallis test was not significant ($p>0.05$), the group means were considered to be homogeneous and no further analysis was performed. When the Kruskal-Wallis test was significant ($p\leq0.05$), mean of each exposed group was compared to the mean of the control group using the exact Mann-Whitney test (2-sided).

In the Path/Tox tables presented in this report, P is expressed as $P<0.01$ or $P<0.05$, but in the actual statistical tests used to determine the level of significance in these tables, P thresholds were $P\leq0.01$ or $P\leq0.05$.

- Quantity of gene transcripts

Because of a lack of normalization and a high variability between calculated values of gene transcript quantities, non-parametric procedures were selected.

Comparison between the Phenobarbital treated group and the control group:

Group means were compared using the exact non parametric Mann-Whitney test (2-sided).

Comparison between the Tertiaryl butanol treated groups and the control group:

Means were compared using the non parametric Kruskal-Wallis test. If the Kruskal-Wallis test was not significant ($p>0.05$), the group means were considered to be homogeneous and no further analysis was performed. When the Kruskal-Wallis test was significant ($p\leq0.05$), mean of each exposed group was compared to the mean of the control group using the exact Mann-Whitney test (2-sided).

Group means were compared at the 5% and 1% levels of significance.
Statistical tests were conducted using SAS programs (Version 8.2).

14 - DATA STORAGE

All raw data, supporting documents as well as protocol, protocol amendments and final report will be maintained at:

EPL Archives, Inc.,
45610 Terminal Drive
Sterling, VA 20166.
USA
Attn: Tony Ludi (1-703-435-8780)

Biological specimens and test substance reference sample will be kept and stored for a period of five years unless directed otherwise by the sponsor at:

Bayer CropScience
355, rue Dostoïevski
BP 153
06903 Sophia Antipolis
France

RESULTS

1 - ANALYSIS (Analytical reports. App. P)

Phenobarbital

Homogeneity and concentration checks of Phenobarbital in suspension were within 97% and 99% of the nominal concentration and were therefore considered to be acceptable as they were within the in-house target range of 90% to 110% of nominal concentration.

Tertiary butanol

Concentration checks of tertiary butanol in solution were within 104% and 105% of the nominal concentration and were therefore considered to be acceptable as they were within the in-house target range of 90% to 110% of nominal concentration. Tertiary butanol was found to be stable in solution at both dose levels under the conditions of storage and usage of the test compound solution on the study.

2 - MORTALITY (APP. A)

One animal from group 4 (ST4F3098, tertiary butanol, 20 mg/mL, 3-day exposure group) was found dead on Day 3. At necropsy, no significant macroscopic finding was observed. This death was considered not to be treatment-related.

3 - CLINICAL SIGNS (Tab. 1: App. A)

Phenobarbital

3 days of treatment

Uncoordinated movements were noted for all animals over the entire study period.

14 days of treatment

Uncoordinated movements were noted for all animals over the entire study period.

Tertiary butanol

3 days of treatment

No clinical signs were observed during the course of the study.

14 days of treatment

At 2 mg/ml, damaged ear was noted for 1/15 animals between study day 10 to 15. As this finding occurred in isolation, it was considered to be incidental.

4 - BODY WEIGHT (Tab. 2, 3, 4; App. B, C, D)

Phenobarbital

3 days of treatment

Mean body weight and body weight gain were unaffected during the course of the study.

14 days of treatment

Mean body weight was reduced by between 3.8% (not statistically significant) during week 1 and 4.7% ($p \leq 0.05$) over the entire study duration. Mean body weight gain/day was 0.01 g ($p \leq 0.01$) compared with 0.14 g in the controls between study days 1 and 8. Thereafter, mean body weight gain/day was comparable to the control values. Overall cumulative body weight gain was reduced by 77% ($p \leq 0.01$) over the entire study period.

Tertiary butanol

3 days of treatment

At 20 mg/ml and at 2 mg/ml, mean body weight and body weight gain were unaffected.

14 days of treatment

Mean body weight was unaffected at both dose levels. Mean body weight gain/day was comparable (between study day 1 and 8) or higher (between study day 8 and 15; +140% at 2 mg/ml and +120% at 20 mg/ml) than the control values at both dose levels. Overall cumulative body weight gain was comparable to the control values at both dose levels.

5 - FOOD CONSUMPTION (Tab. 5; App. E)

Phenobarbital

3 days of treatment

Mean food consumption was unaffected over the entire study period.

14 days of treatment

Mean food consumption was unaffected over the entire study period.

Tertiary butanol

3 days of treatment

At both dose levels, mean food consumption was unaffected over the entire study period.

14 days of treatment

At both dose levels, mean food consumption was reduced by 5.8% (not statistically significant) between study day 8 and 15.

6 - WATER CONSUMPTION (Tab. 6; App. F)

Phenobarbital

3 days of treatment

Mean water consumption was reduced by 13% (not statistically significant) between study day 1 and 4.

14 days of treatment

Mean water consumption was reduced by 25% ($p \leq 0.01$) between study day 1 and 8 and by 16% ($p \leq 0.05$) between study day 8 and 15.

Tertiary butanol

3 days of treatment

At 20 mg/ml, mean water consumption was reduced by 78% ($p \leq 0.01$) between study day 1 and 4.

14 days of treatment

At 20 mg/ml, mean water consumption was reduced by 65% ($p \leq 0.01$) between study day 1 and 8 and between study day 8 and 15.

At 2 mg/ml, mean water consumption was reduced by 8% (not statistically significant) between study day 1 and 8 and by 12% (not statistically significant) between study day 8 and 15.

7 - ACHIEVED DOSAGES (Tab. 7)

The mean achieved dose levels of tertiary butanol expressed in mg/kg/day received by the animals during the study were as follows:

Mean achieved water intake of tertiary butanol (mg/kg/day)		
Females		
Concentration mg/ml	Duration of exposure (3 Days)	Duration of exposure (14 Days)
2	344	418
20	818	1616

8 - HORMONE ANALYSIS (Tab. 8)

Phenobarbital

3 days of treatment

Mean T3 concentrations were decreased by 12% ($p \leq 0.01$) compared to the control group. Mean T4 concentrations were decreased by 34% ($p \leq 0.01$) compared to the control group. Mean TSH concentrations were slightly increased by 12% (not statistically significant) compared to the control values.

14 days of treatment

Mean T3 concentrations were decreased by 21% ($p \leq 0.01$) compared to the control group. Mean T4 concentrations were decreased by 48% ($p \leq 0.01$) compared to the control group. Mean TSH concentrations were comparable to the control values.

Tertiary butanol

3 days of treatment

Mean T3 and mean T4 concentrations for both treatment groups were comparable to the control values. At 20 mg/ml, mean TSH concentrations were increased by 18% (not statistically significant) compared to the control values.

14 days of treatment

Mean T3 concentrations were decreased by 12% ($p \leq 0.01$) and 13% ($p \leq 0.01$) compared to the control group, respectively at 2 mg/ml and 20 mg/ml. Mean T4 concentrations were decreased by 15% ($p \leq 0.01$) and 22% ($p \leq 0.01$) compared to the control group, respectively at 2 mg/ml and 20 mg/ml. Mean TSH concentrations for both treatment groups were comparable to the control values.

Mean hormone data ± SD at 3 days of treatment				
Hormones	Control	PB 80 mg/kg	TBA 2 mg/mL	TBA 20 mg/mL
T3 (nmol/L)	2,17 ± 0,24	1,90 ± 0,21 **	2,02 ± 0,27	2,14 ± 0,39
T4 (nmol/L)	43,4 ± 8,0	28,7 ± 6,9 **	44,9 ± 6,5	44,0 ± 7,5
TSH (ng/mL)	2,00 ± 0,54	2,23 ± 0,37	1,95 ± 0,49	2,35 ± 0,60

Mean hormone data ± SD at 14 days of treatment				
Hormones	Control	PB 80 mg/kg	TBA 2 mg/mL	TBA 20 mg/mL
T3 (nmol/L)	2,53 ± 0,22	2,01 ± 0,20 **	2,22 ± 0,19 **	2,20 ± 0,19 **
T4 (nmol/L)	59,7 ± 7,9	31,0 ± 5,0 **	50,8 ± 9,2 *	46,7 ± 9,7 **
TSH (ng/mL)	2,21 ± 0,44	2,14 ± 0,28	2,33 ± 0,75	2,17 ± 0,54

9 - POST MORTEM EXAMINATIONS

9.1 Terminal body weight and organ weight (Tab. 8; App. G, H, I)

Phenobarbital

3 days of treatment

There was no relevant change in mean terminal body weight after 3 days of treatment, when compared to controls.

Treatment-related changes were noted in the liver weight.

After 3 days of treatment, mean absolute and relative liver weights were statistically significantly higher when compared to the control group.

Mean liver weight ±SD at 3-day scheduled sacrifice (% change when compared to controls)		
Sex	Females	
Phenobarbital	0	80 mg/kg/day
Mean absolute liver weight (g)	1.06 ±0.14	1.21** ±0.11 (+13 %)
Mean liver to body weight ratio (%)	4.753 ±0.399	5.506** ±0.401 (+14 %)
Mean liver to brain weight ratio (%)	216.129 ±30.004	243.697** ±21.575 (+13 %)

**: $p \leq 0.01$

14 days of treatment

There was no relevant change in mean terminal body weight after 14 days of treatment, when compared to controls.

Treatment-related changes were noted in the liver weight.

After 14 days of treatment mean absolute and relative liver weights were statistically significantly higher when compared to the control group.

Mean liver weight ±SD at 14-day scheduled sacrifice (% change when compared to controls)		
Sex	Females	
Phenobarbital	0	80 mg/kg/day
Mean absolute liver weight (g)	1.06 ±0.11	1.20** ±0.10 (+13 %)
Mean liver to body weight ratio (%)	4.812 ±0.344	5.752** ±0.189 (+20 %)
Mean liver to brain weight ratio (%)	222.588 ±19.432	252.219** ±19.473 (+13 %)

**: $p \leq 0.01$

Tertiary Butanol

3 days of treatment

There was no relevant change in mean terminal body weight and liver weight after 3 days of treatment, when compared to controls.

14 days of treatment

There was no relevant change in mean terminal body weight and liver weight after 14 days of treatment, when compared to controls.

9.2 Gross pathology (Tab. 9; App. J)

Phenobarbital

3 days of treatment

All changes were considered as incidental and not treatment-related.

14 days of treatment

Treatment-related changes were noted in the liver. Enlarged liver were found in 13/15 animals.

Tertiary Butanol

3 days of treatment

Unscheduled sacrifice:

One animal from group 4 (ST4F3098) was found dead on Day 3 without any significant macroscopic finding.

Terminal sacrifice:

All changes were considered as incidental and not treatment-related.

14 days of treatment

Terminal sacrifice:

Enlarged liver were found in 3/15 animals in each treated-group with tertiary butanol.

9.3 Microscopic pathology (Tab. 10; App. J, K)

No thyroid effects were observed at both time points for both phenobarbital and tertiary butanol.

Phenobarbital

3 days of treatment

In the liver, minimal to slight diffuse centrilobular hepatocellular hypertrophy was found at 80 mg/kg/day. This change was associated with a tendency toward higher number of mitoses in some rats. These changes were considered to be treatment-related.

Incidence and severity of microscopic changes in the liver, terminal sacrifice		
Sex	Females	
Phenobarbital Dose group (mg/kg/day)	0	80
Number of animals examined	**5**	**5**
Centrilobular hepatocellular hypertrophy: diffuse		
minimal	0	3
slight	0	2
Total	**0**	**5**
Increased number of mitoses		
minimal	0	2
slight	0	2
Total	**0**	**4**

14 days of treatment

In the liver, minimal to slight diffuse centrilobular hepatocellular hypertrophy was found at 80 mg/kg/day. This change was considered to be treatment-related.

Incidence and severity of microscopic changes in the liver, terminal sacrifice		
Sex	Females	
Phenobarbital Dose group (mg/kg/day)	0	80
Number of animals examined	**6***	**6***
Centrilobular hepatocellular hypertrophy: diffuse		
minimal	0	4
slight	0	1
Total	**0**	**5**

* One additional sample due to gross observation.

Tertiary Butanol

3 days of treatment

Unscheduled sacrifice:

One animal from group 4 (ST4F3098) was found dead on Day 3 without any significant microscopic finding.

Terminal sacrifice:

All changes were considered as incidental and not treatment-related.

14 days of treatment

Terminal sacrifice:

In the liver, minimal to slight diffuse centrilobular hepatocellular hypertrophy was found at 20 mg/mL. This change was considered to be treatment-related.

Incidence and severity of microscopic changes in the liver, terminal sacrifice			
Sex	Females		
Tertiary Butanol (mg/mL)	0	2	20
Number of animals examined	**6**	**5**	**5**
Centrilobular hepatocellular hypertrophy: diffuse			
minimal	0	0	1
slight	0	0	1
Total	**0**	**0**	**2**

10 - HEPATOTOXICITY TESTING

Due to the premature death of the animal ST4F3098, which was a part of the pool 4FE (tertiary butanol 20 mg/ml - 3 days of treatment), the livers of the two remaining animals were included in the pools 4FC and 4FD of the same treatment group. For that reason, the group 4 (3 days of treatment) was composed with four pools instead of the five initially scheduled.

Due to the unexpected results obtained for the pools 1FE and 4FD (maybe inverted during the microsomal preparation process) these two samples were not included in the mean calculations.

10.1 Total cytochrome P-450 content (Tab. 12; App. N)

Phenobarbital

The administration of Phenobarbital at 80 mg/kg/day induced a significant increase ($p \leq 0.01$) of the total cytochrome P450 content by approximately 130% when compared to the controls after 3 and 14 days of treatment.

Tertiary Butanol

3 days of treatment

No relevant change was observed in total cytochrome P450 content at both dose levels.

14 days of treatment

A slight increase (+56%, $p \leq 0.01$) in total cytochrome P-450 was observed with tertiary butanol at 20 mg/ml. No change was observed at the low dose 2 mg/ml.

10.2 Enzymatic activities (Tab. 13 to 15; App. N)

Phenobarbital

3 days of treatment

Phenobarbital induced the following changes:

- a marked increase in PROD activity (+678%, $p \leq 0.05$) and in BROD activity (6976%, $p \leq 0.05$) when compared to the control values.
- EROD appeared to be very slightly increased ($p \leq 0.05$) but this change was considered not to be toxicologically relevant.
- LAH was unaffected by the treatment.

14 days of treatment

Phenobarbital induced the following changes:

- a marked increase in PROD activity (+710%, $p \leq 0.01$) and in BROD activity (+7075%, $p \leq 0.01$) when compared to the control values.
- EROD appeared to be slightly increased ($p \leq 0.01$) but this change was considered not to be toxicologically relevant.
- LAH was unaffected by the treatment.

Tertiary Butanol

3 days of treatment

Tertiary butanol induced no change in enzymatic activities EROD, PROD, BROD and LAH at both dose levels 2 and 20 mg/ml.

14 days of treatment

Tertiary butanol induced the following changes:

- a slight increase (+109%, $p \leq 0.01$) in PROD activity at the highest dose 20 mg/ml only. No change was observed at the lowest dose 2 mg/ml.

- a moderate increase (+1129%, $p \leq 0.01$) in BROD activity at the high dose level 20 mg/ml. At 2 mg/ml BROD was very slightly increased (+105%, $p \leq 0.01$) and this was considered not to be related to the treatment.

- EROD and LAH were unaffected by the treatment at any dose level.

The magnitude of the changes compared to controls is summarized in the tables below:

	Total cytochrome P-450 content and enzymatic activities Mean ± standard deviation (% compared to controls)					
Dose level	Control		Tertiary Butanol 2 mg/ml		Tertiary Butanol 20 mg/ml	
	3 Days	14 Days	3 Days	14 Days	3 Days[a]	14 Days
P-450 (nmol/mg Prot.)	0.90 ± 0.09	0.96 ± 0.04	1.02 ± 0.11 N.S.	1.14 ± 0.22 N.S.	1.03 ± 0.05 N.S.	1.50 ± 0.33** 56 %
EROD (pmol/min/ mg Prot.)	66.16 ± 6.90	70.15 ± 4.92	66.38 ± 6.49 N.S.	77.18 ± 9.75 N.S.	64.41 ± 2.66 N.S.	73.63 ± 8.81 N.S.
PROD (pmol/min/ mg Prot.)	8.54 ± 0.46	8.94 ± 1.65	8.16 ± 0.78 N.S.	9.84 ± 1.55 N.S.	8.14 ± 1.69 N.S.	18.69 ± 5.30** 109 %
BROD (pmol/min/ mg Prot.)	15.15 ± 5.38	18.73 ± 1.60	16.29 ± 4.12 N.S.	31.01 ± 8.82** N.C.	23.41 ± 13.81 N.S.	230.17 ± 135.26** 1129 %
LAH (nmol/min/ mg Prot.)	1.00	1.14	0.96 N.C.	1.14 N.C.	1.11 N.C.	1.34 N.C.

The means and standard deviation are calculated with 5 pools in each group except for [a]: group with 3 pools
N.S.: not statistically significant
N.C.: no apparent relevant change
** : statistically different from the control group ($p \leq 0.01$)
* : : statistically different from the control group ($p \leq 0.05$)

	Total cytochrome P-450 content and enzymatic activities Mean ± standard deviation (% compared to controls)			
Dose level	Control		Phenobarbital 80 mg/kg/day	
	3 Days	14 Days	3 Days[b]	14 Days
P-450 (nmol/mg Prot.)	0.90 ± 0.09	0.96 ± 0.04	2.07 ± 0.09** 130 %	2.23 ± 0.13** 132 %
EROD (pmol/min/ mg Prot.)	66.16 ± 6.90	70.15 ± 4.92	82.44 ± 3.90* N.C.	102.34 ± 15.50** N.C.
PROD (pmol/min/ mg Prot.)	8.54 ± 0.46	8.94 ± 1.65	66.46 ± 10.00* 678 %	72.37 ± 19.99** 710 %
BROD (pmol/min/ mg Prot.)	15.15 ± 5.38	18.73 ± 1.60	1071.96 ± 84.28* 6976 %	1343.83 ± 193.14** 7075 %
LAH (nmol/min/ mg Prot.)	1.00	1.14	0.86 N.C.	0.77 N.C.

The means and standard deviation are calculated with 5 pools in each group except for [b]: group with 4 pools
N.S.: not statistically significant
N.C.: no apparent relevant change
** : statistically different from the control group ($p \leq 0.01$)
* : : statistically different from the control group ($p \leq 0.05$)

Overall, these data indicate that Tertiary Butanol at the dose 20mg/ml has the ability to induce total cytochrome P-450, BROD and PROD activities in female mice following 14-day exposure only.

11 - Q-PCR ANALYSIS (Tab. 16; App. O)

	Mean Relative Quantity ± standard deviation of gene transcripts (% change compared to control mean values)			
Gene transcripts	Control		Phenobarbital (80 mg/kg/day)	
	3 Days	14 Days	3 Days	14 Days
Cyp1a1	0.948 ± 0.156	0.642 ± 0.150	0.599** ± 0.144 (-37)	0.482* ± 0.119 (-25)
Cyp2b9	1.451 ± 0.325	0.984 ± 0.098	1.485 ± 0.139	1.114 ± 0.180
Cyp2b10	0.915 ± 0.440	0.745 ± 0.242	19.331** ± 5.104 (+2013)	24.593** ± 9.483 (+3201)
Cyp3a11	0.867 ± 0.209	0.737 ± 0.205	2.489** ± 0.453 (+187)	1.571** ± 0.265 (+113)
Sult1a1	1.002 ± 0.140	0.956 ± 0.135	1.460** ± 0.247 (+46)	1.512** ± 0.170 (+58)

* : Statistically different from the control group ($p \leq 0.05$)
** : Statistically different from the control group ($p \leq 0.01$)

	Mean Relative Quantity ± standard deviation of gene transcripts (% change compared to control mean values)			
Gene transcripts	Control		Phenobarbital (80 mg/kg/day)	
	3 Days	14 Days	3 Days	14 Days
Sult2a2	1.709 ± 1.108	0.843 ± 0.362	6.745** ± 2.680 (+295)	7.799** ± 2.810 (+825)
Sultn	0.922 ± 0.131	0.858 ± 0.168	1.554** ± 0.269 (+69)	1.682**± 0.353 (+96)
Ugt1a1	1.116 ± 0.146	0.782 ± 0.117	2.349** ± 0.343 (+110)	1.429** ± 0.184 (+83)
Ugt2b1	0.682 ± 0.143	0.912 ± 0.157	1.249** ± 0.191 (+83)	1.175** ± 0.183 (+29)
Ugt2b5	0.799 ± 0.132	0.745 ± 0.174	0.921 ± 0.145	0.872 ± 0.177

* : Statistically different from the control group ($p \leq 0.05$)
** : Statistically different from the control group ($p \leq 0.01$)

	Mean Relative Quantity ± standard deviation of gene transcripts (% change compared to control mean values)					
Gene transcripts	Control		Tertiary Butanol (2 mg/ml)		Tertiary Butanol (20 mg/ml)	
	3 Days	14 Days	3 Days	14 Days	3 Days	14 Days
Cyp1a1	0.948 ± 0.156	0.642 ± 0.150	0.980 ± 0.345	0.726 ± 0.126	0.906 ± 0.212	0.615 ± 0.205
Cyp2b9	1.451 ± 0.325	0.984 ± 0.098	1.448 ± 0.252	1.006 ± 0.128	1.428 ± 0.293	1.193** ± 0.155 (+21)
Cyp2b10	0.915 ± 0.440	0.745 ± 0.242	0.956 ± 0.425	1.254** ± 0.320 (+68)	1.094 ± 0.295	16.280** ± 18.501 (+2085)
Cyp3a11	0.867 ± 0.209	0.737 ± 0.205	0.819 ± 0.277	0.745 ± 0.140	0.922 ± 0.226	0.842 ± 0.243
Sult1a1	1.002 ± 0.140	0.956 ± 0.135	1.069 ± 0.115	1.147* ± 0.172 (+20)	0.947 ± 0.129	1.221** ± 0.207 (+28)
Sult2a2	1.709 ± 1.108	0.843 ± 0.362	2.742 ± 1.185	1.370 ± 1.293	1.793 ± 1.239	1.720 ± 1.007
Sultn	0.922 ± 0.131	0.858 ± 0.168	0.930 ± 0.178	0.862 ± 0.150	0.832 ± 0.128	0.931 ± 0.219
Ugt1a1	1.116 ± 0.146	0.782 ± 0.117	1.218 ± 0.092	0.790 ± 0.083	1.091 ± 0.117	0.843 ± 0.088
Ugt2b1	0.682 ± 0.143	0.912 ± 0.157	0.657 ± 0.088	0.879 ± 0.169	0.623 ± 0.112	0.821 ± 0.172
Ugt2b5	0.799 ± 0.132	0.745 ± 0.174	0.790 ± 0.092	0.662 ± 0.105	0.763 ± 0.119	0.667 ± 0.099

* : Statistically different from the control group ($p \leq 0.05$)
** : Statistically different from the control group ($p \leq 0.01$)

Phenobarbital

3 days of treatment

Cyp1a1 gene transcripts were down-regulated (-37%, $p \leq 0.01$) and Cyp2b10 and Cyp3a11 gene transcripts were up-regulated (+2013%, $p \leq 0.01$ and +187%, $p \leq 0.01$; respectively) in the liver of phenobarbital treated animals when compared with controls.

The transcripts of isoforms of sulfotransferases and UDP glucoronosyltransferases were statistically significantly up-regulated (ranging from +46% to +295%, $p \leq 0.01$ and from +83% to +110%, $p \leq 0.01$; respectively) in the liver of phenobarbital treated animals with the exception of Ugt2b5.

14 days of treatment

Cyp1a1 gene transcripts were down-regulated (-25%, $p \leq 0.05$) and Cyp2b10 and Cyp3a11 gene transcripts were up-regulated (+3201%, $p \leq 0.01$ and +113%, $p \leq 0.01$; respectively) in the liver of phenobarbital treated animals when compared with controls.

The transcripts of isoforms of sulfotransferases and UDP glucoronosyltransferases were statistically significantly up-regulated (ranging from +58% to +825%, $p \leq 0.01$ and from +29% to +83%, $p \leq 0.01$; respectively) in the liver of phenobarbital treated animals with the exception of Ugt2b5.

Tertiary butanol

3 days of treatment

No significant change was observed at both dose levels.

14 days of treatment

At 20 mg/ml

Cyp2b9 and Cyp2b10 gene transcripts were up-regulated (+21%, $p \leq 0.01$ and +2085%, $p \leq 0.01$; respectively) in the liver of tertiary butanol treated animals when compared with controls.

The transcripts of sulfotransferase Sult 1a1 were statistically significantly up-regulated (+28%, $p \leq 0.01$) in the liver of tertiary butanol treated animals when compared with controls.

At 2 mg/ml

Cyp2b10 gene transcripts were up-regulated (+68%, $p \leq 0.01$) in the liver of tertiary butanol treated animals when compared with controls.

The transcripts of sulfotransferase Sult 1a1 were statistically significantly up-regulated (+20%, $p \leq 0.05$) in the liver of tertiary butanol treated animals when compared with controls.

CONCLUSION

One animal from group 4 (ST4F3098; 3-day exposure) was found dead on Day 3 without any significant macroscopic findings. This death was judged not to be treatment-related.

Phenobarbital

3 days of treatment

Treatment-related clinical signs consisted of uncoordinated movements for all animals over the entire study period.

Mean water consumption was reduced by 13% between study day 1 and 4.

Mean T3 concentrations were decreased by 12% ($p \leq 0.01$) compared to the control group. Mean T4 concentrations were decreased by 34% ($p \leq 0.01$) compared to the control group. Mean TSH concentrations were slightly increased by 12% (not statistically significant) compared to the control values.

At necropsy, mean absolute and relative liver weights were increased by 13% ($p \leq 0.01$) and 14% ($p \leq 0.01$) when compared to the control group. Microscopic examination revealed a slight tendency toward minimal to slight diffuse centrilobular hepatocellular hypertrophy. This change was associated with a tendency toward higher number of mitoses in some rats.

The assessment of the P-450 isoenzyme activities revealed a marked increase in mean total cytochrome P450 content (+130%), a moderate increase in PROD activity (+678%) and a marked increase in BROD activity (+6976%) when compared to the control values.

Quantitative PCR analyses of transcripts of genes revealed a slight down-regulation of Cyp1a1 transcripts (-37%) and a marked up-regulation of Cyp2b10 and Cyp3a11 transcripts (+2012% and +187%; respectively). Sulfotransferases and UDP glucoronosyltransferases transcripts were up-regulated (ranging from +46% to +295% and from +83% to +110%; respectively) with the exception of Ugt2b5.

14 days of treatment

Treatment-related clinical signs consisted of uncoordinated movements for all animals over the entire study period.

Mean body weight was reduced by between 3.8% (not statistically significant) and 4.7% ($p \leq 0.05$) during the second week of the study. Mean body weight gain/day was 0.01 g ($p \leq 0.01$) compared with 0.14 g in the controls between study days 1 and 8. Thereafter, mean body weight gain/day was comparable to the control values. Overall cumulative body weight gain was reduced by 77% ($p \leq 0.01$) over the entire study period.

Mean water consumption was reduced by 25% between study day 1 and 8 and by 16% between study day 8 and 15.

Mean T3 concentrations were decreased by 21% ($p \leq 0.01$) compared to the control group. Mean T4 concentrations were decreased by 48% ($p \leq 0.01$) compared to the control group. Mean TSH concentrations were comparable to the control values.

At necropsy, mean absolute and relative liver weights were increased by 13% ($p \leq 0.01$) and 20% ($p \leq 0.01$) when compared to the control group. At the macroscopic examination enlarged livers were found in 13/15 animals. Microscopic examination revealed a slight tendency toward minimal to slight diffuse centrilobular hepatocellular hypertrophy.

The assessment of the P-450 isoenzyme activities revealed a marked increase in mean total cytochrome P450 content (+132%), a moderate increase in PROD activity (+710%) and a marked increase in BROD activity (+7075%) when compared to the control values.
Quantitative PCR analyses of transcripts of genes known to be implicated in the hepatic inactivation of thyroid hormones revealed a slight down-regulation of Cyp1a1 transcripts (-25%) and a marked up-regulation of Cyp2b10 and Cyp3a11 transcripts (+3201% and +113%; respectively). Sulfotransferases and UDP glucoronosyltransferases transcripts were up-regulated (ranging from +58% to +825% and from +29% to +83%; respectively) with the exception of Ugt2b5.

Tertiary butanol

3 days of treatment

No clinical signs were observed during the course of the study.

At 20 mg/ml, mean water consumption was reduced by 78% between study day 1 and 4.

At 20 mg/ml, mean TSH concentrations were increased by 18% (not statistically significant) compared to the control values. At 2 mg/ml, no changes were observed.

Tertiary butanol induced no change in mean total cytochrome P-450 content and in enzymatic activities EROD, PROD, BROD and LAH at both dose levels.

Tertiary butanol induced no change in gene transcripts using Quantitative PCR analyses.

14 days of treatment

No treatment-related clinical signs were observed during the course of the study.

Mean body weight gain/day was comparable (between study day 1 and 8) or higher (between study day 8 and 15; +140% at 2 mg/ml and +120% at 20 mg/ml) than the control values at both dose levels.

At both dose levels, mean food consumption was reduced by 5.8% (not statistically significant) between study day 8 and 15.

At 20 mg/ml, mean water consumption was reduced by 65% over the entire study period. At 2 mg/ml, mean water consumption was reduced by 8% between study day 1 and 8 and by 12% between study day 8 and 15.

Mean T3 concentrations were decreased by 12% ($p \leq 0.01$) and 13% ($p \leq 0.01$) compared to the control group, respectively at 2 mg/ml and 20 mg/ml. Mean T4 concentrations were decreased by 15% ($p \leq 0.01$) and 22% ($p \leq 0.01$) compared to the control group, respectively at 2 mg/ml and 20 mg/ml.

At the macroscopic examination enlarged livers were found in 3/15 animals at both dose levels. Microscopic examination revealed a slight tendency toward minimal to slight diffuse centrilobular hepatocellular hypertrophy at 20 mg/mL.

The assessment of the P-450 isoenzyme activities revealed a slight increase in mean total cytochrome P450 content (+56%), a slight increase in PROD activity (+109%) and a moderate increase in BROD activity (+1129%) at the highest dose 20 mg/ml only.

At 20 mg/ml, quantitative PCR analyses of transcripts of genes revealed a slight up-regulation of Cyp2b9 transcripts (+21%) and a marked up-regulation of Cyp2b10 transcripts (+2085%). Sulfotransferase Sult 1a1 transcripts were slightly up-regulated (+28%).

At 2 mg/ml, quantitative PCR analyses of transcripts of genes revealed a slight up-regulation of Cyp2b10 transcripts (+68%). Sulfotransferase Sult 1a1 transcripts were slightly up-regulated (+20%).

No thyroid effects were observed at both time points for both Phenobarbital and tertiary butanol.

In conclusion, tertiary butanol appears to be a weak liver enzyme inducer in the B6C3F1 mice (weaker than Phenobarbital). The induction was specific for the CYP 2b10 enzyme, with a minor increase in CYP 2b9. Tertiary butanol also induced the Phase II enzyme Sulfuryltransferase 1a1, which is involved in the thyroid hormone homeostasis.

PROTOCOL DEVIATIONS

1. The diet used in the study was a pelleted and irradiated diet A04C-10 from SAFE and not a powdered and irradiated diet A04CP1-10 from SAFE as it was written in the protocol (typing error).

2. Change of the statistical procedure used for the following parameter:
   liver enzyme activities
   comparison between the tertiary butanol treated groups and the control group
   The exact Mann-Whitney test (2-sided) was used instead of the Dunn test (2-sided) when the Kruskal-Wallis test was significant.

3. Under the request of the sponsor, a co-sponsor was added for this study. The name and address of this co-sponsor are:
   Evonik Oxeno GmbH
   Paul-Baumann-Str. 1
   45772 Marl
   Germany

It is the opinion of the Study Director that these deviations did not affect the results of the study.

Study Director:

Date: April 2nd, 2009

O. BLANCK

REFERENCES

GENERAL REFERENCES

1 Langrand-Lerche C. (2004): Phenobarbital and Clofibrate – Reference 28-day study for hepatotoxicity in the C57BL/6 mouse (SA 03310), Bayer CropScience, Sophia Antipolis, France.

2 Vincent M., Soun A. (1994): 12-Hydroxylauric acid: Analytical determination in rodent liver microsomal fractions (ANL/046-94E) Rhône-Poulenc CropScience, Sophia Antipolis France.

STATISTICAL REFERENCES

3 Bartlett test, in SOKAL R.R. and ROHLF F.J. (1981): Biometry, W.H. Freeman, New York, pp. 403-407.

4 DUNNETT C.W. (1955): A multiple comparison procedure for comparing several treatments with a control, *J. Amer. Statist. Ass.*, 50, pp. 1096-1121.

5 KRUSKAL W.H. and WALLIS W.A. (1952): Use of ranks in one criterion variance analysis, *J. Amer. Statist. Ass.*, 47, pp. 583-621.

6 MANN H.B. and WHITNEY D.R. (1947): On a test of whether one of two random variables is stochastically larger than the other, *Ann. Math. Statist.*, 18, pp. 50-60.

7 SAS software release 8.2, SAS Institute Inc., Cary, NC, U.S.A.

ABBREVIATIONS

%	percentage
°C	degree Celsius
g	gram
ml/kg	milliliter/kilogram
mg/kg	milligram/kilogram
Std dev	standard deviations
Ctls	control group
NT	not taken
wt	weight
l	liter
ppm	part per million
i.e.	*id est*
am	*ante meridiem*
pm	*post meridiem*
ml	milliliter
g/l	gram/liter
HPLC	high performance liquid chromatography
UV	ultraviolet
nm	nanometer
h	hour
°	degree
N or n	number

TABLES

TABLE 1 - SUMMARY OF CLINICAL SIGNS

Tab 1a **Phenobarbital**

Tab 1a1 **3 Days**
Tab 1a2 **14 Days**

Tab 1b **Tertiary butanol**

Tab 1b1 **3 Days**
Tab 1b2 **14 Days**

Tab 1a1 **Phenobarbital - 3 Days**

GROUP	DURATION OF EXPOSURE	TEST SUBSTANCE	DOSE LEVELS	NUMBER OF ANIMALS PER GROUP	ANIMAL IDENTITY	
FEMALES					SG1 (Sept. 04, 2008)	SG2 (Sept. 05, 2008)
1	3 Days	Phenobarbital	80 mg/kg/day	15	ST1F3039 to 3047	ST1F3048 to 3053
2	3 Days	Control	0	15	ST2F3054 to 3059	ST2F3060 to 3068
3	3 Days	TERTIARY BUTANOL	2 mg/mL	15	ST3F3069 to 3077	ST3F3078 to 3083
4	3 Days		20 mg/mL	15	ST4F3084 to 3089	ST4F3090 to 3098
FEMALES					SG1 (Sept. 03, 2008)	SG2 (Sept. 04, 2008)
1	14 Days	Phenobarbital	80 mg/kg/day	15	ST1F3099 to 3107	ST1F3108 to 3113
2	14 Days	Control	0	15	ST2F3114 to 3119	ST2F3120 to 3128
3	14 Days	TERTIARY BUTANOL	2 mg/mL	15	ST3F3129 to 3137	ST3F3138 to 3143
4	14 Days		20 mg/mL	15	ST4F3144 to 3149	ST4F3150 to 3158

Bayer CropScience
Center of Toxicology
Sophia-Antipolis
Mouse/B6C3F1

SUMMARY OF CLINICAL SIGNS
Study number: SA 08160
Dosing phase 1
Study start date: 04-Sep-08

Printed: 26-Nov-08
Page: 1

Mechanistic study/Exploratory study

INTERVAL: 1 - 5 DAYS

DOSAGE IN mg/kg OF Phenobarb	FEMALES 0.0		80.0	
OBSERVATION	(15)		(15)	
	a	b	a	b
NORMAL				
Normal/no significant signs	15	100.0	15	100.0
Hair/Skin				
hair loss	1	6.7	0	0.0
Movement/Behavior				
uncoordinated movements	0	0.0	15	100.0

KEY: () = NUMBER OF ANIMALS ALIVE AT START OF INTERVAL
A = NUMBER ANIMALS AFFECTED
B = PERCENT OF ANIMALS WITH OBSERVATION DURING INTERVAL

Tab 1a2 **Phenobarbital - 14 Days**

GROUP	DURATION OF EXPOSURE	TEST SUBSTANCE	DOSE LEVELS	NUMBER OF ANIMALS PER GROUP	ANIMAL IDENTITY	
FEMALES					SG1 (Sept. 04, 2008)	SG2 (Sept. 05, 2008)
1	3 Days	Phenobarbital	80 mg/kg/day	15	ST1F3039 to 3047	ST1F3048 to 3053
2	3 Days	Control	0	15	ST2F3054 to 3059	ST2F3060 to 3068
3	3 Days	TERTIARY BUTANOL	2 mg/mL	15	ST3F3069 to 3077	ST3F3078 to 3083
4	3 Days		20 mg/mL	15	ST4F3084 to 3089	ST4F3090 to 3098
FEMALES					SG1 (Sept. 03, 2008)	SG2 (Sept. 04, 2008)
1	14 Days	Phenobarbital	80 mg/kg/day	15	ST1F3099 to 3107	ST1F3108 to 3113
2	14 Days	Control	0	15	ST2F3114 to 3119	ST2F3120 to 3128
3	14 Days	TERTIARY BUTANOL	2 mg/mL	15	ST3F3129 to 3137	ST3F3138 to 3143
4	14 Days		20 mg/mL	15	ST4F3144 to 3149	ST4F3150 to 3158

Bayer CropScience
Center of Toxicology
Sophia-Antipolis
Mouse/B6C3F1

SUMMARY OF CLINICAL SIGNS
Study number: SA-08160
Dosing phase 1
Study start date: 03-Sep-08

Printed: 26-Nov-08
Page: 1

Mechanistic study/Exploratory study

INTERVAL: 1 - 16 DAYS	FEMALES			
DOSAGE IN mg/kg OF Phenobarb	0.0		80.0	
OBSERVATION	(15)		(15)	
	a	b	a	b
NORMAL				
Normal/no significant signs	15	100.0	15	100.0
Movement/Behavior				
uncoordinated movements	0	0.0	15	100.0

KEY: () = NUMBER OF ANIMALS ALIVE AT START OF INTERVAL
A = NUMBER ANIMALS AFFECTED
B = PERCENT OF ANIMALS WITH OBSERVATION DURING INTERVAL

Tab 1b1 **Tertiary butanol - 3 Days**

GROUP	DURATION OF EXPOSURE	TEST SUBSTANCE	DOSE LEVELS	NUMBER OF ANIMALS PER GROUP	ANIMAL IDENTITY	
FEMALES					SG1 (Sept. 04, 2008)	SG2 (Sept. 05, 2008)
1	3 Days	Phenobarbital	80 mg/kg/day	15	ST1F3039 to 3047	ST1F3048 to 3053
2	3 Days	Control	0	15	ST2F3054 to 3059	ST2F3060 to 3068
3	3 Days	TERTIARY BUTANOL	2 mg/mL	15	ST3F3069 to 3077	ST3F3078 to 3083
4	3 Days		20 mg/mL	15	ST4F3084 to 3089	ST4F3090 to 3098
FEMALES					SG1 (Sept. 03, 2008)	SG2 (Sept. 04, 2008)
1	14 Days	Phenobarbital	80 mg/kg/day	15	ST1F3099 to 3107	ST1F3108 to 3113
2	14 Days	Control	0	15	ST2F3114 to 3119	ST2F3120 to 3128
3	14 Days	TERTIARY BUTANOL	2 mg/mL	15	ST3F3129 to 3137	ST3F3138 to 3143
4	14 Days		20 mg/mL	15	ST4F3144 to 3149	ST4F3150 to 3158

Bayer CropScience
Center of Toxicology
Sophia-Antipolis
Mouse/B6C3F1

SUMMARY OF CLINICAL SIGNS
Study number: SA 08160
Dosing phase 1
Study start date: 04-Sep-08

Printed: 26-Nov-08
Page: 1
Mechanistic study/Exploratory study

INTERVAL: 1 - 5 DAYS

DOSAGE IN mg/ml of Tertiary butanol	FEMALES 0.0		2		20	
OBSERVATION	(15)		(15)		(15)	
	a	b	a	b	a	b
NORMAL						
Normal/no significant signs	15	100.0	15	100.0	15	100.0
Hair/Skin						
hair loss	1	6.7	0	0.0	0	0.0

KEY: () = NUMBER OF ANIMALS ALIVE AT START OF INTERVAL
A = NUMBER ANIMALS AFFECTED
B = PERCENT OF ANIMALS WITH OBSERVATION DURING INTERVAL

Tab 1b2 **Tertiary butanol - 14 Days**

GROUP	DURATION OF EXPOSURE	TEST SUBSTANCE	DOSE LEVELS	NUMBER OF ANIMALS PER GROUP	ANIMAL IDENTITY	
FEMALES					SG1 (Sept. 04, 2008)	SG2 (Sept. 05, 2008)
1	3 Days	Phenobarbital	80 mg/kg/day	15	ST1F3039 to 3047	ST1F3048 to 3053
2	3 Days	Control	0	15	ST2F3054 to 3059	ST2F3060 to 3068
3	3 Days	TERTIARY BUTANOL	2 mg/mL	15	ST3F3069 to 3077	ST3F3078 to 3083
4	3 Days		20 mg/mL	15	ST4F3084 to 3089	ST4F3090 to 3098
FEMALES					SG1 (Sept. 03, 2008)	SG2 (Sept. 04, 2008)
1	14 Days	Phenobarbital	80 mg/kg/day	15	ST1F3099 to 3107	ST1F3108 to 3113
2	14 Days	Control	0	15	ST2F3114 to 3119	ST2F3120 to 3128
3	14 Days	TERTIARY BUTANOL	2 mg/mL	15	ST3F3129 to 3137	ST3F3138 to 3143
4	14 Days		20 mg/mL	15	ST4F3144 to 3149	ST4F3150 to 3158

Bayer CropScience
Center of Toxicology
Sophia-Antipolis
Mouse/B6C3F1

SUMMARY OF CLINICAL SIGNS
Study number: SA-08160
Dosing phase 1
Study start date: 03-Sep-08

Printed: 26-Nov-08
Page: 1
Mechanistic study/Exploratory study

INTERVAL: 1 - 16 DAYS	FEMALES					
DOSAGE IN mg/ml of Tertiary butanol	0.0		2		20	
OBSERVATION	(15)		(15)		(15)	
	a	b	a	b	a	b
NORMAL						
Normal/no significant signs	15	100.0	15	100.0	15	100.0
Ears						
damaged ear	0	0.0	1	6.7	0	0.0

KEY: () = NUMBER OF ANIMALS ALIVE AT START OF INTERVAL
A = NUMBER ANIMALS AFFECTED
B = PERCENT OF ANIMALS WITH OBSERVATION DURING INTERVAL

TABLE 2 - **MEAN BODY WEIGHTS**

Tab 2a **Phenobarbital**

Tab 2a1 **3 Days**
Tab 2a2 **14 Days**

Tab 2b **Tertiary butanol**

Tab 2b1 **3 Days**
Tab 2b2 **14 Days**

Tab 2a1 **Phenobarbital - 3 Days**

GROUP	DURATION OF EXPOSURE	TEST SUBSTANCE	DOSE LEVELS	NUMBER OF ANIMALS PER GROUP	ANIMAL IDENTITY	
FEMALES					SG1 (Sept. 04, 2008)	SG2 (Sept. 05, 2008)
1	3 Days	Phenobarbital	80 mg/kg/day	15	ST1F3039 to 3047	ST1F3048 to 3053
2	3 Days	Control	0	15	ST2F3054 to 3059	ST2F3060 to 3068
3	3 Days	TERTIARY BUTANOL	2 mg/mL	15	ST3F3069 to 3077	ST3F3078 to 3083
4	3 Days		20 mg/mL	15	ST4F3084 to 3089	ST4F3090 to 3098
FEMALES					SG1 (Sept. 03, 2008)	SG2 (Sept. 04, 2008)
1	14 Days	Phenobarbital	80 mg/kg/day	15	ST1F3099 to 3107	ST1F3108 to 3113
2	14 Days	Control	0	15	ST2F3114 to 3119	ST2F3120 to 3128
3	14 Days	TERTIARY BUTANOL	2 mg/mL	15	ST3F3129 to 3137	ST3F3138 to 3143
4	14 Days		20 mg/mL	15	ST4F3144 to 3149	ST4F3150 to 3158

Tertiary butanol: mechanistic 14-day toxicity study in the mouse
(hepatotoxicity and thyroid hormone investigations)

Mouse
F e m a l e s

MEAN BODY WEIGHT (g)

DAY OF STUDY	Dosing phase 1 1a	4a
GROUP 2 Control 0.0 mg/kg		
(N)	15	15
Mean	21.8	22.0
Std Dev	0.9	1.1
GROUP 1 Phenobarbital 80.0 mg/kg		
(N)	15	15
Mean	21.9	21.9
Std Dev	0.9	0.9

a Ftst;NSg-05/T-test;

Tab 2a2 **Phenobarbital - 14 Days**

GROUP	DURATION OF EXPOSURE	TEST SUBSTANCE	DOSE LEVELS	NUMBER OF ANIMALS PER GROUP	ANIMAL IDENTITY	
FEMALES					SG1 (Sept. 04, 2008)	SG2 (Sept. 05, 2008)
1	3 Days	Phenobarbital	80 mg/kg/day	15	ST1F3039 to 3047	ST1F3048 to 3053
2	3 Days	Control	0	15	ST2F3054 to 3059	ST2F3060 to 3068
3	3 Days	TERTIARY BUTANOL	2 mg/mL	15	ST3F3069 to 3077	ST3F3078 to 3083
4	3 Days		20 mg/mL	15	ST4F3084 to 3089	ST4F3090 to 3098
FEMALES					SG1 (Sept. 03, 2008)	SG2 (Sept. 04, 2008)
1	14 Days	Phenobarbital	80 mg/kg/day	15	ST1F3099 to 3107	ST1F3108 to 3113
2	14 Days	Control	0	15	ST2F3114 to 3119	ST2F3120 to 3128
3	14 Days	TERTIARY BUTANOL	2 mg/mL	15	ST3F3129 to 3137	ST3F3138 to 3143
4	14 Days		20 mg/mL	15	ST4F3144 to 3149	ST4F3150 to 3158

Tertiary butanol: mechanistic 14-day toxicity study in the mouse
(hepatotoxicity and thyroid hormone investigations)

Mouse
F e m a l e s

MEAN BODY WEIGHT (g)

DAY OF STUDY	Dosing phase 1 1a	8a	15a
GROUP 2 Control 0.0 mg/kg			
(N)	15	15	15
Mean	20.1	21.1	21.5
Std Dev	1.0	1.1	1.2
GROUP 1 Phenobarbital 80.0 mg/kg			
(N)	15	15	15
Mean	20.2	20.3	20.5*
Std Dev	0.7	1.2	1.3

* The group mean is significantly different from the control at P < 0.05
a Ftst;NSg-05/T-test;

Tab 2b1 **Tertiary butanol - 3 Days**

GROUP	DURATION OF EXPOSURE	TEST SUBSTANCE	DOSE LEVELS	NUMBER OF ANIMALS PER GROUP	ANIMAL IDENTITY	
FEMALES					SG1 (Sept. 04, 2008)	SG2 (Sept. 05, 2008)
1	3 Days	Phenobarbital	80 mg/kg/day	15	ST1F3039 to 3047	ST1F3048 to 3053
2	3 Days	Control	0	15	ST2F3054 to 3059	ST2F3060 to 3068
3	3 Days	TERTIARY BUTANOL	2 mg/mL	15	ST3F3069 to 3077	ST3F3078 to 3083
4	3 Days		20 mg/mL	15	ST4F3084 to 3089	ST4F3090 to 3098
FEMALES					SG1 (Sept. 03, 2008)	SG2 (Sept. 04, 2008)
1	14 Days	Phenobarbital	80 mg/kg/day	15	ST1F3099 to 3107	ST1F3108 to 3113
2	14 Days	Control	0	15	ST2F3114 to 3119	ST2F3120 to 3128
3	14 Days	TERTIARY BUTANOL	2 mg/mL	15	ST3F3129 to 3137	ST3F3138 to 3143
4	14 Days		20 mg/mL	15	ST4F3144 to 3149	ST4F3150 to 3158

Note: The missing value corresponds to the animal ST4F3098 that died on Study Day 3 without any significant macroscopic finding. This death was considered not to be treatment-related.

Tertiary butanol: mechanistic 14-day toxicity study in the mouse
(hepatotoxicity and thyroid hormone investigations)

Mouse
F e m a l e s

MEAN BODY WEIGHT (g)

DAY OF STUDY	Dosing phase 1 1a	4a
GROUP 2 Control 0.0 mg/kg		
(N)	15	15
Mean	21.8	22.0
Std Dev	0.9	1.1
GROUP 3 Tertiary butanol 2 mg/ml		
(N)	15	15
Mean	21.9	22.1
Std Dev	0.8	1.1
GROUP 4 Tertiary butanol 20 mg/ml		
(N)	15	14
Mean	22.1	22.0
Std Dev	0.8	0.9

a Bart;NSg-05/Anova;NSg-05/No unplanned test performed

Tab 2b2 **Tertiary butanol - 14 Days**

GROUP	DURATION OF EXPOSURE	TEST SUBSTANCE	DOSE LEVELS	NUMBER OF ANIMALS PER GROUP	ANIMAL IDENTITY	
FEMALES					SG1 (Sept. 04, 2008)	SG2 (Sept. 05, 2008)
1	3 Days	Phenobarbital	80 mg/kg/day	15	ST1F3039 to 3047	ST1F3048 to 3053
2	3 Days	Control	0	15	ST2F3054 to 3059	ST2F3060 to 3068
3	3 Days	TERTIARY BUTANOL	2 mg/mL	15	ST3F3069 to 3077	ST3F3078 to 3083
4	3 Days		20 mg/mL	15	ST4F3084 to 3089	ST4F3090 to 3098
FEMALES					SG1 (Sept. 03, 2008)	SG2 (Sept. 04, 2008)
1	14 Days	Phenobarbital	80 mg/kg/day	15	ST1F3099 to 3107	ST1F3108 to 3113
2	14 Days	Control	0	15	ST2F3114 to 3119	ST2F3120 to 3128
3	14 Days	TERTIARY BUTANOL	2 mg/mL	15	ST3F3129 to 3137	ST3F3138 to 3143
4	14 Days		20 mg/mL	15	ST4F3144 to 3149	ST4F3150 to 3158

Tertiary butanol: mechanistic 14-day toxicity study in the mouse
(hepatotoxicity and thyroid hormone investigations)

Mouse
F e m a l e s

MEAN BODY WEIGHT (g)

DAY OF STUDY	Dosing phase 1 1a	8a	15a
GROUP 2 Control 0.0 mg/kg			
(N)	15	15	15
Mean	20.1	21.1	21.5
Std Dev	1.0	1.1	1.2
GROUP 3 Tertiary butanol 2 mg/ml			
(N)	15	15	15
Mean	20.1	20.9	21.7
Std Dev	0.9	0.8	0.9
GROUP 4 Tertiary butanol 20 mg/ml			
(N)	15	15	15
Mean	20.3	21.3	22.0
Std Dev	0.9	0.8	1.1

a Bart;NSg-05/Anova;NSg-05/No unplanned test performed

TABLE 3 - **MEAN BODY WEIGHT GAINS PER INTERVAL**

Tab 3a **Phenobarbital**

Tab 3a1 **3 Days**
Tab 3a2 **14 Days**

Tab 3b **Tertiary butanol**

Tab 3b1 **3 Days**
Tab 3b2 **14 Days**

Tab 3a1 **Phenobarbital - 3 Days**

GROUP	DURATION OF EXPOSURE	TEST SUBSTANCE	DOSE LEVELS	NUMBER OF ANIMALS PER GROUP	ANIMAL IDENTITY	
FEMALES					SG1 (Sept. 04, 2008)	SG2 (Sept. 05, 2008)
1	3 Days	Phenobarbital	80 mg/kg/day	15	ST1F3039 to 3047	ST1F3048 to 3053
2	3 Days	Control	0	15	ST2F3054 to 3059	ST2F3060 to 3068
3	3 Days	TERTIARY BUTANOL	2 mg/mL	15	ST3F3069 to 3077	ST3F3078 to 3083
4	3 Days		20 mg/mL	15	ST4F3084 to 3089	ST4F3090 to 3098
FEMALES					SG1 (Sept. 03, 2008)	SG2 (Sept. 04, 2008)
1	14 Days	Phenobarbital	80 mg/kg/day	15	ST1F3099 to 3107	ST1F3108 to 3113
2	14 Days	Control	0	15	ST2F3114 to 3119	ST2F3120 to 3128
3	14 Days	TERTIARY BUTANOL	2 mg/mL	15	ST3F3129 to 3137	ST3F3138 to 3143
4	14 Days		20 mg/mL	15	ST4F3144 to 3149	ST4F3150 to 3158

Tertiary butanol: mechanistic 14-day toxicity study in the mouse
(hepatotoxicity and thyroid hormone investigations)

Mouse
F e m a l e s

MEAN BODY WEIGHT GAIN/DAY (g)

DAY OF STUDY	Dosing phase 1 4a
GROUP 2 Control 0.0 mg/kg	
(N)	15
Mean	0.09
Std Dev	0.20
GROUP 1 Phenobarbital 80.0 mg/kg	
(N)	15
Mean	-0.01
Std Dev	0.24

a Ftst;NSg-05/T-test;

Tab 3a2 **Phenobarbital - 14 Days**

GROUP	DURATION OF EXPOSURE	TEST SUBSTANCE	DOSE LEVELS	NUMBER OF ANIMALS PER GROUP	ANIMAL IDENTITY	
FEMALES					SG1 (Sept. 04, 2008)	SG2 (Sept. 05, 2008)
1	3 Days	Phenobarbital	80 mg/kg/day	15	ST1F3039 to 3047	ST1F3048 to 3053
2	3 Days	Control	0	15	ST2F3054 to 3059	ST2F3060 to 3068
3	3 Days	TERTIARY BUTANOL	2 mg/mL	15	ST3F3069 to 3077	ST3F3078 to 3083
4	3 Days		20 mg/mL	15	ST4F3084 to 3089	ST4F3090 to 3098
FEMALES					SG1 (Sept. 03, 2008)	SG2 (Sept. 04, 2008)
1	14 Days	Phenobarbital	80 mg/kg/day	15	ST1F3099 to 3107	ST1F3108 to 3113
2	14 Days	Control	0	15	ST2F3114 to 3119	ST2F3120 to 3128
3	14 Days	TERTIARY BUTANOL	2 mg/mL	15	ST3F3129 to 3137	ST3F3138 to 3143
4	14 Days		20 mg/mL	15	ST4F3144 to 3149	ST4F3150 to 3158

Tertiary butanol: mechanistic 14-day toxicity study in the mouse
(hepatotoxicity and thyroid hormone investigations)

Mouse
F e m a l e s

MEAN BODY WEIGHT GAIN/DAY (g)

DAY OF STUDY	Dosing phase 1 8a	15a
GROUP 2 Control 0.0 mg/kg		
(N)	15	15
Mean	0.14	0.05
Std Dev	0.07	0.10
GROUP 1 Phenobarbital 80.0 mg/kg		
(N)	15	15
Mean	0.01+	0.03
Std Dev	0.11	0.06

\+ The group mean is significantly different from the control at P < 0.01
a Ftst;NSg-05/T-test;

Tab 3b1 **Tertiary butanol - 3 Days**

GROUP	DURATION OF EXPOSURE	TEST SUBSTANCE	DOSE LEVELS	NUMBER OF ANIMALS PER GROUP	ANIMAL IDENTITY	
FEMALES					SG1 (Sept. 04, 2008)	SG2 (Sept. 05, 2008)
1	3 Days	Phenobarbital	80 mg/kg/day	15	ST1F3039 to 3047	ST1F3048 to 3053
2	3 Days	Control	0	15	ST2F3054 to 3059	ST2F3060 to 3068
3	3 Days	TERTIARY BUTANOL	2 mg/mL	15	ST3F3069 to 3077	ST3F3078 to 3083
4	3 Days		20 mg/mL	15	ST4F3084 to 3089	ST4F3090 to 3098
FEMALES					SG1 (Sept. 03, 2008)	SG2 (Sept. 04, 2008)
1	14 Days	Phenobarbital	80 mg/kg/day	15	ST1F3099 to 3107	ST1F3108 to 3113
2	14 Days	Control	0	15	ST2F3114 to 3119	ST2F3120 to 3128
3	14 Days	TERTIARY BUTANOL	2 mg/mL	15	ST3F3129 to 3137	ST3F3138 to 3143
4	14 Days		20 mg/mL	15	ST4F3144 to 3149	ST4F3150 to 3158

Note: The missing value corresponds to the animal ST4F3098 that died on Study Day 3 without any significant macroscopic finding. This death was considered not to be treatment-related.

Tertiary butanol: mechanistic 14-day toxicity study in the mouse
(hepatotoxicity and thyroid hormone investigations)

Mouse
F e m a l e s

MEAN BODY WEIGHT GAIN/DAY (g)

DAY OF STUDY	Dosing phase 1 4a
GROUP 2 Control 0.0 mg/kg	
(N)	15
Mean	0.09
Std Dev	0.20
GROUP 3 Tertiary butanol 2 mg/ml	
(N)	15
Mean	0.07
Std Dev	0.20
GROUP 4 Tertiary butanol 20 mg/ml	
(N)	14
Mean	-0.05
Std Dev	0.30

a Bart;NSg-05/Anova;NSg-05/No unplanned test performed

Tab 3b2 **Tertiary butanol - 14 Days**

GROUP	DURATION OF EXPOSURE	TEST SUBSTANCE	DOSE LEVELS	NUMBER OF ANIMALS PER GROUP	ANIMAL IDENTITY	
FEMALES					SG1 (Sept. 04, 2008)	SG2 (Sept. 05, 2008)
1	3 Days	Phenobarbital	80 mg/kg/day	15	ST1F3039 to 3047	ST1F3048 to 3053
2	3 Days	Control	0	15	ST2F3054 to 3059	ST2F3060 to 3068
3	3 Days	TERTIARY BUTANOL	2 mg/mL	15	ST3F3069 to 3077	ST3F3078 to 3083
4	3 Days		20 mg/mL	15	ST4F3084 to 3089	ST4F3090 to 3098
FEMALES					SG1 (Sept. 03, 2008)	SG2 (Sept. 04, 2008)
1	14 Days	Phenobarbital	80 mg/kg/day	15	ST1F3099 to 3107	ST1F3108 to 3113
2	14 Days	Control	0	15	ST2F3114 to 3119	ST2F3120 to 3128
3	14 Days	TERTIARY BUTANOL	2 mg/mL	15	ST3F3129 to 3137	ST3F3138 to 3143
4	14 Days		20 mg/mL	15	ST4F3144 to 3149	ST4F3150 to 3158

Tertiary butanol: mechanistic 14-day toxicity study in the mouse
(hepatotoxicity and thyroid hormone investigations)

Mouse
F e m a l e s

MEAN BODY WEIGHT GAIN/DAY (g)

DAY OF STUDY	Dosing phase 1 8a	Dosing phase 1 15a
GROUP 2 Control 0.0 mg/kg		
(N)	15	15
Mean	0.14	0.05
Std Dev	0.07	0.10
GROUP 3 Tertiary butanol 2 mg/ml		
(N)	15	15
Mean	0.10	0.12
Std Dev	0.07	0.08
GROUP 4 Tertiary butanol 20 mg/ml		
(N)	15	15
Mean	0.15	0.11
Std Dev	0.11	0.09

a Bart;NSg-05/Anova;NSg-05/No unplanned test performed

TABLE 4 - **MEAN CUMULATIVE BODY WEIGHT GAINS**

Tab 4a **Phenobarbital**

Tab 4a1 **3 Days**
Tab 4a2 **14 Days**

Tab 4b **Tertiary butanol**

Tab 4b1 **3 Days**
Tab 4b2 **14 Days**

Tab 4a1 **Phenobarbital - 3 Days**

GROUP	DURATION OF EXPOSURE	TEST SUBSTANCE	DOSE LEVELS	NUMBER OF ANIMALS PER GROUP	ANIMAL IDENTITY	
FEMALES					SG1 (Sept. 04, 2008)	SG2 (Sept. 05, 2008)
1	3 Days	Phenobarbital	80 mg/kg/day	15	ST1F3039 to 3047	ST1F3048 to 3053
2	3 Days	Control	0	15	ST2F3054 to 3059	ST2F3060 to 3068
3	3 Days	TERTIARY BUTANOL	2 mg/mL	15	ST3F3069 to 3077	ST3F3078 to 3083
4	3 Days		20 mg/mL	15	ST4F3084 to 3089	ST4F3090 to 3098
FEMALES					SG1 (Sept. 03, 2008)	SG2 (Sept. 04, 2008)
1	14 Days	Phenobarbital	80 mg/kg/day	15	ST1F3099 to 3107	ST1F3108 to 3113
2	14 Days	Control	0	15	ST2F3114 to 3119	ST2F3120 to 3128
3	14 Days	TERTIARY BUTANOL	2 mg/mL	15	ST3F3129 to 3137	ST3F3138 to 3143
4	14 Days		20 mg/mL	15	ST4F3144 to 3149	ST4F3150 to 3158

Tertiary butanol: mechanistic 14-day toxicity study in the mouse
(hepatotoxicity and thyroid hormone investigations)

Mouse
F e m a l e s

MEAN ABSOLUTE BODY WEIGHT GAIN (g)

DAY OF STUDY	Dosing phase 1 4a
GROUP 2 Control 0.0 mg/kg	
(N)	15
Mean	0.3
Std Dev	0.6
GROUP 1 Phenobarbital 80.0 mg/kg	
(N)	15
Mean	0.0
Std Dev	0.7

a Ftst;NSg-05/T-test;

Tab 4a2 **Phenobarbital - 14 Days**

GROUP	DURATION OF EXPOSURE	TEST SUBSTANCE	DOSE LEVELS	NUMBER OF ANIMALS PER GROUP	ANIMAL IDENTITY	
FEMALES					SG1 (Sept. 04, 2008)	SG2 (Sept. 05, 2008)
1	3 Days	Phenobarbital	80 mg/kg/day	15	ST1F3039 to 3047	ST1F3048 to 3053
2	3 Days	Control	0	15	ST2F3054 to 3059	ST2F3060 to 3068
3	3 Days	TERTIARY BUTANOL	2 mg/mL	15	ST3F3069 to 3077	ST3F3078 to 3083
4	3 Days		20 mg/mL	15	ST4F3084 to 3089	ST4F3090 to 3098
FEMALES					SG1 (Sept. 03, 2008)	SG2 (Sept. 04, 2008)
1	14 Days	Phenobarbital	80 mg/kg/day	15	ST1F3099 to 3107	ST1F3108 to 3113
2	14 Days	Control	0	15	ST2F3114 to 3119	ST2F3120 to 3128
3	14 Days	TERTIARY BUTANOL	2 mg/mL	15	ST3F3129 to 3137	ST3F3138 to 3143
4	14 Days		20 mg/mL	15	ST4F3144 to 3149	ST4F3150 to 3158

Tertiary butanol: mechanistic 14-day toxicity study in the mouse
(hepatotoxicity and thyroid hormone investigations)

Mouse
F e m a l e s

MEAN ABSOLUTE BODY WEIGHT GAIN (g)

	Dosing phase 1	
DAY OF STUDY	8a	15a
GROUP 2 Control 0.0 mg/kg		
(N)	15	15
Mean	1.0	1.3
Std Dev	0.5	0.7
GROUP 1 Phenobarbital 80.0 mg/kg		
(N)	15	15
Mean	0.1+	0.3+
Std Dev	0.8	0.9

\+ The group mean is significantly different from the control at P < 0.01
a Ftst;NSg-05/T-test;

Tab 4b1 **Tertiary butanol - 3 Days**

GROUP	DURATION OF EXPOSURE	TEST SUBSTANCE	DOSE LEVELS	NUMBER OF ANIMALS PER GROUP	ANIMAL IDENTITY	
FEMALES					SG1 (Sept. 04, 2008)	SG2 (Sept. 05, 2008)
1	3 Days	Phenobarbital	80 mg/kg/day	15	ST1F3039 to 3047	ST1F3048 to 3053
2	3 Days	Control	0	15	ST2F3054 to 3059	ST2F3060 to 3068
3	3 Days	TERTIARY BUTANOL	2 mg/mL	15	ST3F3069 to 3077	ST3F3078 to 3083
4	3 Days		20 mg/mL	15	ST4F3084 to 3089	ST4F3090 to 3098
FEMALES					SG1 (Sept. 03, 2008)	SG2 (Sept. 04, 2008)
1	14 Days	Phenobarbital	80 mg/kg/day	15	ST1F3099 to 3107	ST1F3108 to 3113
2	14 Days	Control	0	15	ST2F3114 to 3119	ST2F3120 to 3128
3	14 Days	TERTIARY BUTANOL	2 mg/mL	15	ST3F3129 to 3137	ST3F3138 to 3143
4	14 Days		20 mg/mL	15	ST4F3144 to 3149	ST4F3150 to 3158

Note: The missing value corresponds to the animal ST4F3098 that died on Study Day 3 without any significant macroscopic finding. This death was considered not to be treatment-related.

Tertiary butanol: mechanistic 14-day toxicity study in the mouse
(hepatotoxicity and thyroid hormone investigations)

Mouse
F e m a l e s

MEAN ABSOLUTE BODY WEIGHT GAIN (g)

DAY OF STUDY	Dosing phase 1 4a
GROUP 2 Control 0.0 mg/kg	
(N)	15
Mean	0.3
Std Dev	0.6
GROUP 3 Tertiary butanol 2 mg/ml	
(N)	15
Mean	0.2
Std Dev	0.6
GROUP 4 Tertiary butanol 20 mg/ml	
(N)	14
Mean	-0.1
Std Dev	0.9

a Bart;NSg-05/Anova;NSg-05/No unplanned test performed

Tab 4b2 **Tertiary butanol - 14 Days**

GROUP	DURATION OF EXPOSURE	TEST SUBSTANCE	DOSE LEVELS	NUMBER OF ANIMALS PER GROUP	ANIMAL IDENTITY	
FEMALES					SG1 (Sept. 04, 2008)	SG2 (Sept. 05, 2008)
1	3 Days	Phenobarbital	80 mg/kg/day	15	ST1F3039 to 3047	ST1F3048 to 3053
2	3 Days	Control	0	15	ST2F3054 to 3059	ST2F3060 to 3068
3	3 Days	TERTIARY BUTANOL	2 mg/mL	15	ST3F3069 to 3077	ST3F3078 to 3083
4	3 Days		20 mg/mL	15	ST4F3084 to 3089	ST4F3090 to 3098
FEMALES					SG1 (Sept. 03, 2008)	SG2 (Sept. 04, 2008)
1	14 Days	Phenobarbital	80 mg/kg/day	15	ST1F3099 to 3107	ST1F3108 to 3113
2	14 Days	Control	0	15	ST2F3114 to 3119	ST2F3120 to 3128
3	14 Days	TERTIARY BUTANOL	2 mg/mL	15	ST3F3129 to 3137	ST3F3138 to 3143
4	14 Days		20 mg/mL	15	ST4F3144 to 3149	ST4F3150 to 3158

Tertiary butanol: mechanistic 14-day toxicity study in the mouse
(hepatotoxicity and thyroid hormone investigations)

Mouse
F e m a l e s

MEAN ABSOLUTE BODY WEIGHT GAIN (g)

DAY OF STUDY	Dosing phase 1 8a	Dosing phase 1 15a
GROUP 2 Control 0.0 mg/kg		
(N)	15	15
Mean	1.0	1.3
Std Dev	0.5	0.7
GROUP 3 Tertiary butanol 2 mg/ml		
(N)	15	15
Mean	0.7	1.5
Std Dev	0.5	0.5
GROUP 4 Tertiary butanol 20 mg/ml		
(N)	15	15
Mean	1.0	1.8
Std Dev	0.8	1.0

a Bart;NSg-05/Anova;NSg-05/No unplanned test performed

TABLE 5 - **MEAN FOOD CONSUMPTION**

Tab 5a **Phenobarbital**

Tab 5a1 **3 Days**
Tab 5a2 **14 Days**

Tab 5b **Tertiary butanol**

Tab 5b1 **3 Days**
Tab 5b2 **14 Days**

Tab 5a1 **Phenobarbital - 3 Days**

GROUP	DURATION OF EXPOSURE	TEST SUBSTANCE	DOSE LEVELS	NUMBER OF ANIMALS PER GROUP	ANIMAL IDENTITY	
FEMALES					SG1 (Sept. 04, 2008)	SG2 (Sept. 05, 2008)
1	3 Days	Phenobarbital	80 mg/kg/day	15	ST1F3039 to 3047	ST1F3048 to 3053
2	3 Days	Control	0	15	ST2F3054 to 3059	ST2F3060 to 3068
3	3 Days	TERTIARY BUTANOL	2 mg/mL	15	ST3F3069 to 3077	ST3F3078 to 3083
4	3 Days		20 mg/mL	15	ST4F3084 to 3089	ST4F3090 to 3098
FEMALES					SG1 (Sept. 03, 2008)	SG2 (Sept. 04, 2008)
1	14 Days	Phenobarbital	80 mg/kg/day	15	ST1F3099 to 3107	ST1F3108 to 3113
2	14 Days	Control	0	15	ST2F3114 to 3119	ST2F3120 to 3128
3	14 Days	TERTIARY BUTANOL	2 mg/mL	15	ST3F3129 to 3137	ST3F3138 to 3143
4	14 Days		20 mg/mL	15	ST4F3144 to 3149	ST4F3150 to 3158

Tertiary butanol: mechanistic 14-day toxicity study in the mouse
(hepatotoxicity and thyroid hormone investigations)

Mouse
F e m a l e s

MEAN FOOD CONSUMPTION/DAY (g)

DAY OF STUDY	Dosing phase 1 4a
GROUP 2 Control 0.0 mg/kg	
(N)	15
Mean	5.5
Std Dev	0.8
GROUP 1 Phenobarbital 80.0 mg/kg	
(N)	15
Mean	5.2
Std Dev	0.8

a Ftst;NSg-05/T-test;

Tab 5a2 **Phenobarbital - 14 Days**

GROUP	DURATION OF EXPOSURE	TEST SUBSTANCE	DOSE LEVELS	NUMBER OF ANIMALS PER GROUP	ANIMAL IDENTITY	
FEMALES					SG1 (Sept. 04, 2008)	SG2 (Sept. 05, 2008)
1	3 Days	Phenobarbital	80 mg/kg/day	15	ST1F3039 to 3047	ST1F3048 to 3053
2	3 Days	Control	0	15	ST2F3054 to 3059	ST2F3060 to 3068
3	3 Days	TERTIARY BUTANOL	2 mg/mL	15	ST3F3069 to 3077	ST3F3078 to 3083
4	3 Days		20 mg/mL	15	ST4F3084 to 3089	ST4F3090 to 3098
FEMALES					SG1 (Sept. 03, 2008)	SG2 (Sept. 04, 2008)
1	14 Days	Phenobarbital	80 mg/kg/day	15	ST1F3099 to 3107	ST1F3108 to 3113
2	14 Days	Control	0	15	ST2F3114 to 3119	ST2F3120 to 3128
3	14 Days	TERTIARY BUTANOL	2 mg/mL	15	ST3F3129 to 3137	ST3F3138 to 3143
4	14 Days		20 mg/mL	15	ST4F3144 to 3149	ST4F3150 to 3158

Tertiary butanol: mechanistic 14-day toxicity study in the mouse
(hepatotoxicity and thyroid hormone investigations)

Mouse
F e m a l e s

MEAN FOOD CONSUMPTION/DAY (g)

DAY OF STUDY	Dosing phase 1 8a	Dosing phase 1 15b
GROUP 2 Control 0.0 mg/kg		
(N)	15	15
Mean	4.7	5.2
Std Dev	0.4	0.7
GROUP 1 Phenobarbital 80.0 mg/kg		
(N)	15	15
Mean	5.2	5.4
Std Dev	0.9	0.7

a Ftst;Sig-05/Transformations not helpful/T-Test
b Ftst;NSg-05/T-test;

Tab 5b1 **Tertiary butanol - 3 Days**

GROUP	DURATION OF EXPOSURE	TEST SUBSTANCE	DOSE LEVELS	NUMBER OF ANIMALS PER GROUP	ANIMAL IDENTITY	
FEMALES					SG1 (Sept. 04, 2008)	SG2 (Sept. 05, 2008)
1	3 Days	Phenobarbital	80 mg/kg/day	15	ST1F3039 to 3047	ST1F3048 to 3053
2	3 Days	Control	0	15	ST2F3054 to 3059	ST2F3060 to 3068
3	3 Days	TERTIARY BUTANOL	2 mg/mL	15	ST3F3069 to 3077	ST3F3078 to 3083
4	3 Days		20 mg/mL	15	ST4F3084 to 3089	ST4F3090 to 3098
FEMALES					SG1 (Sept. 03, 2008)	SG2 (Sept. 04, 2008)
1	14 Days	Phenobarbital	80 mg/kg/day	15	ST1F3099 to 3107	ST1F3108 to 3113
2	14 Days	Control	0	15	ST2F3114 to 3119	ST2F3120 to 3128
3	14 Days	TERTIARY BUTANOL	2 mg/mL	15	ST3F3129 to 3137	ST3F3138 to 3143
4	14 Days		20 mg/mL	15	ST4F3144 to 3149	ST4F3150 to 3158

Note: The missing value corresponds to the animal ST4F3098 that died on Study Day 3 without any significant macroscopic finding. This death was considered not to be treatment-related.

Tertiary butanol: mechanistic 14-day toxicity study in the mouse
(hepatotoxicity and thyroid hormone investigations)

Mouse
F e m a l e s

MEAN FOOD CONSUMPTION/DAY (g)

DAY OF STUDY	Dosing phase 1 4a
GROUP 2 Control 0.0 mg/kg	
(N)	15
Mean	5.5
Std Dev	0.8
GROUP 3 Tertiary butanol 2 mg/ml	
(N)	15
Mean	5.4
Std Dev	0.8
GROUP 4 Tertiary butanol 20 mg/ml	
(N)	14
Mean	5.5
Std Dev	0.8

a Bart;NSg-05/Anova;NSg-05/No unplanned test performed

Tab 5b2 **Tertiary butanol - 14 Days**

GROUP	DURATION OF EXPOSURE	TEST SUBSTANCE	DOSE LEVELS	NUMBER OF ANIMALS PER GROUP	ANIMAL IDENTITY	
FEMALES					SG1 (Sept. 04, 2008)	SG2 (Sept. 05, 2008)
1	3 Days	Phenobarbital	80 mg/kg/day	15	ST1F3039 to 3047	ST1F3048 to 3053
2	3 Days	Control	0	15	ST2F3054 to 3059	ST2F3060 to 3068
3	3 Days	TERTIARY BUTANOL	2 mg/mL	15	ST3F3069 to 3077	ST3F3078 to 3083
4	3 Days		20 mg/mL	15	ST4F3084 to 3089	ST4F3090 to 3098
FEMALES					SG1 (Sept. 03, 2008)	SG2 (Sept. 04, 2008)
1	14 Days	Phenobarbital	80 mg/kg/day	15	ST1F3099 to 3107	ST1F3108 to 3113
2	14 Days	Control	0	15	ST2F3114 to 3119	ST2F3120 to 3128
3	14 Days	TERTIARY BUTANOL	2 mg/mL	15	ST3F3129 to 3137	ST3F3138 to 3143
4	14 Days		20 mg/mL	15	ST4F3144 to 3149	ST4F3150 to 3158

Tertiary butanol: mechanistic 14-day toxicity study in the mouse
(hepatotoxicity and thyroid hormone investigations)

Mouse
F e m a l e s

MEAN FOOD CONSUMPTION/DAY (g)

DAY OF STUDY	Dosing phase 1 8a	Dosing phase 1 15b
GROUP 2 Control 0.0 mg/kg		
(N)	15	15
Mean	4.7	5.2
Std Dev	0.4	0.7
GROUP 3 Tertiary butanol 2 mg/ml		
(N)	15	15
Mean	4.5	4.9
Std Dev	0.2	0.3
GROUP 4 Tertiary butanol 20 mg/ml		
(N)	15	15
Mean	4.5	4.9
Std Dev	0.3	0.3

a Bart;NSg-05/Anova;NSg-05/No unplanned test performed
b Bart;Sig-05/Transformations not helpful/NP-KW;NSg-05/No unplanned test performed

TABLE 6 - **MEAN WATER CONSUMPTION**

Tab 6a **Phenobarbital**

Tab 6a1 **3 Days**
Tab 6a2 **14 Days**

Tab 6b **Tertiary butanol**

Tab 6b1 **3 Days**
Tab 6b2 **14 Days**

Tab 6a1 **Phenobarbital - 3 Days**

GROUP	DURATION OF EXPOSURE	TEST SUBSTANCE	DOSE LEVELS	NUMBER OF ANIMALS PER GROUP	ANIMAL IDENTITY	
FEMALES					SG1 (Sept. 04, 2008)	SG2 (Sept. 05, 2008)
1	3 Days	Phenobarbital	80 mg/kg/day	15	ST1F3039 to 3047	ST1F3048 to 3053
2	3 Days	Control	0	15	ST2F3054 to 3059	ST2F3060 to 3068
3	3 Days	TERTIARY BUTANOL	2 mg/mL	15	ST3F3069 to 3077	ST3F3078 to 3083
4	3 Days		20 mg/mL	15	ST4F3084 to 3089	ST4F3090 to 3098
FEMALES					SG1 (Sept. 03, 2008)	SG2 (Sept. 04, 2008)
1	14 Days	Phenobarbital	80 mg/kg/day	15	ST1F3099 to 3107	ST1F3108 to 3113
2	14 Days	Control	0	15	ST2F3114 to 3119	ST2F3120 to 3128
3	14 Days	TERTIARY BUTANOL	2 mg/mL	15	ST3F3129 to 3137	ST3F3138 to 3143
4	14 Days		20 mg/mL	15	ST4F3144 to 3149	ST4F3150 to 3158

Tertiary butanol: mechanistic 14-day toxicity study in the mouse
(hepatotoxicity and thyroid hormone investigations)

Mouse
F e m a l e s

MEAN WATER CONSUMPTION/DAY (g)

DAY OF STUDY	Dosing phase 1 4a
GROUP 2 Control 0.0 mg/kg	
(N)	15
Mean	4.0
Std Dev	0.9
GROUP 1 Phenobarbital 80.0 mg/kg	
(N)	15
Mean	3.5
Std Dev	0.8

a Ftst;NSg-05/T-test;

Tab 6a2 **Phenobarbital - 14 Days**

GROUP	DURATION OF EXPOSURE	TEST SUBSTANCE	DOSE LEVELS	NUMBER OF ANIMALS PER GROUP	ANIMAL IDENTITY	
FEMALES					SG1 (Sept. 04, 2008)	SG2 (Sept. 05, 2008)
1	3 Days	Phenobarbital	80 mg/kg/day	15	ST1F3039 to 3047	ST1F3048 to 3053
2	3 Days	Control	0	15	ST2F3054 to 3059	ST2F3060 to 3068
3	3 Days	TERTIARY BUTANOL	2 mg/mL	15	ST3F3069 to 3077	ST3F3078 to 3083
4	3 Days		20 mg/mL	15	ST4F3084 to 3089	ST4F3090 to 3098
FEMALES					SG1 (Sept. 03, 2008)	SG2 (Sept. 04, 2008)
1	14 Days	Phenobarbital	80 mg/kg/day	15	ST1F3099 to 3107	ST1F3108 to 3113
2	14 Days	Control	0	15	ST2F3114 to 3119	ST2F3120 to 3128
3	14 Days	TERTIARY BUTANOL	2 mg/mL	15	ST3F3129 to 3137	ST3F3138 to 3143
4	14 Days		20 mg/mL	15	ST4F3144 to 3149	ST4F3150 to 3158

Tertiary butanol: mechanistic 14-day toxicity study in the mouse
(hepatotoxicity and thyroid hormone investigations)

Mouse
F e m a l e s

MEAN WATER CONSUMPTION/DAY (g)

DAY OF STUDY	Dosing phase 1 8a	Dosing phase 1 15a
GROUP 2 Control 0.0 mg/kg		
(N)	15	15
Mean	4.8	5.1
Std Dev	0.9	0.7
GROUP 1 Phenobarbital 80.0 mg/kg		
(N)	15	15
Mean	3.6+	4.3*
Std Dev	1.0	1.1

\+ The group mean is significantly different from the control at P < 0.01
* The group mean is significantly different from the control at P < 0.05
a Ftst;NSg-05/T-test;

Tab 6b1 **Tertiary butanol - 3 Days**

GROUP	DURATION OF EXPOSURE	TEST SUBSTANCE	DOSE LEVELS	NUMBER OF ANIMALS PER GROUP	ANIMAL IDENTITY	
FEMALES					SG1 (Sept. 04, 2008)	SG2 (Sept. 05, 2008)
1	3 Days	Phenobarbital	80 mg/kg/day	15	ST1F3039 to 3047	ST1F3048 to 3053
2	3 Days	Control	0	15	ST2F3054 to 3059	ST2F3060 to 3068
3	3 Days	TERTIARY BUTANOL	2 mg/mL	15	ST3F3069 to 3077	ST3F3078 to 3083
4	3 Days		20 mg/mL	15	ST4F3084 to 3089	ST4F3090 to 3098
FEMALES					SG1 (Sept. 03, 2008)	SG2 (Sept. 04, 2008)
1	14 Days	Phenobarbital	80 mg/kg/day	15	ST1F3099 to 3107	ST1F3108 to 3113
2	14 Days	Control	0	15	ST2F3114 to 3119	ST2F3120 to 3128
3	14 Days	TERTIARY BUTANOL	2 mg/mL	15	ST3F3129 to 3137	ST3F3138 to 3143
4	14 Days		20 mg/mL	15	ST4F3144 to 3149	ST4F3150 to 3158

Note: The missing value corresponds to the animal ST4F3098 that died on Study Day 3 without any significant macroscopic finding. This death was considered not to be treatment-related.

Tertiary butanol: mechanistic 14-day toxicity study in the mouse
(hepatotoxicity and thyroid hormone investigations)

Mouse
F e m a l e s

MEAN WATER CONSUMPTION/DAY (g)

DAY OF STUDY	Dosing phase 1 4a
GROUP 2 Control 0.0 mg/kg	
(N)	15
Mean	4.0
Std Dev	0.9
GROUP 3 Tertiary butanol 2 mg/ml	
(N)	15
Mean	3.8
Std Dev	1.6
GROUP 4 Tertiary butanol 20 mg/ml	
(N)	14
Mean	0.9+
Std Dev	0.6

\+ The group mean is significantly different from the control at P < 0.01
a Bart;Sig-05/Transformations not helpful/NP-KW;Sig-05/Dunn's Rank Sum

Tab 6b2 **Tertiary butanol - 14 Days**

GROUP	DURATION OF EXPOSURE	TEST SUBSTANCE	DOSE LEVELS	NUMBER OF ANIMALS PER GROUP	ANIMAL IDENTITY	
FEMALES					SG1 (Sept. 04, 2008)	SG2 (Sept. 05, 2008)
1	3 Days	Phenobarbital	80 mg/kg/day	15	ST1F3039 to 3047	ST1F3048 to 3053
2	3 Days	Control	0	15	ST2F3054 to 3059	ST2F3060 to 3068
3	3 Days	TERTIARY BUTANOL	2 mg/mL	15	ST3F3069 to 3077	ST3F3078 to 3083
4	3 Days		20 mg/mL	15	ST4F3084 to 3089	ST4F3090 to 3098
FEMALES					SG1 (Sept. 03, 2008)	SG2 (Sept. 04, 2008)
1	14 Days	Phenobarbital	80 mg/kg/day	15	ST1F3099 to 3107	ST1F3108 to 3113
2	14 Days	Control	0	15	ST2F3114 to 3119	ST2F3120 to 3128
3	14 Days	TERTIARY BUTANOL	2 mg/mL	15	ST3F3129 to 3137	ST3F3138 to 3143
4	14 Days		20 mg/mL	15	ST4F3144 to 3149	ST4F3150 to 3158

Tertiary butanol: mechanistic 14-day toxicity study in the mouse
(hepatotoxicity and thyroid hormone investigations)

Mouse
F e m a l e s

MEAN WATER CONSUMPTION/DAY (g)

DAY OF STUDY	Dosing phase 1 8a	15a
GROUP 2 Control 0.0 mg/kg		
(N)	15	15
Mean	4.8	5.1
Std Dev	0.9	0.7
GROUP 3 Tertiary butanol 2 mg/ml		
(N)	15	15
Mean	4.4	4.5
Std Dev	2.3	1.4
GROUP 4 Tertiary butanol 20 mg/ml		
(N)	15	15
Mean	1.7+	1.8+
Std Dev	0.7	1.2

\+ The group mean is significantly different from the control at P < 0.01
a Bart;Sig-05/Transformations not helpful/NP-KW;Sig-05/Dunn's Rank Sum

TABLE 7 - **ACHIEVED DOSAGES**

GROUP	DURATION OF EXPOSURE	TEST SUBSTANCE	DOSE LEVELS	NUMBER OF ANIMALS PER GROUP	ANIMAL IDENTITY	
FEMALES					SG1 (Sept. 04, 2008)	SG2 (Sept. 05, 2008)
1	3 Days	Phenobarbital	80 mg/kg/day	15	ST1F3039 to 3047	ST1F3048 to 3053
2	3 Days	Control	0	15	ST2F3054 to 3059	ST2F3060 to 3068
3	3 Days	TERTIARY BUTANOL	2 mg/mL	15	ST3F3069 to 3077	ST3F3078 to 3083
4	3 Days		20 mg/mL	15	ST4F3084 to 3089	ST4F3090 to 3098
FEMALES					SG1 (Sept. 03, 2008)	SG2 (Sept. 04, 2008)
1	14 Days	Phenobarbital	80 mg/kg/day	15	ST1F3099 to 3107	ST1F3108 to 3113
2	14 Days	Control	0	15	ST2F3114 to 3119	ST2F3120 to 3128
3	14 Days	TERTIARY BUTANOL	2 mg/mL	15	ST3F3129 to 3137	ST3F3138 to 3143
4	14 Days		20 mg/mL	15	ST4F3144 to 3149	ST4F3150 to 3158

TERTIARY BUTANOL: MECHANISTIC 14-DAY TOXICITY STUDY IN THE MOUSE (HEPATOTOXICITY AND THYROID HORMONE INVESTIGATIONS)

SA 08160

Achieved dosage-group mean values (mg/kg body weight/day)

DAY 3	
	Week of study (Day 4)
Tertiary Butanol	1
2 mg/ml	343.89
20 mg/ml	818.18

DAY 14			
	Week of study (Day 8)	Week of study (Day 15)	Weeks 1 to 2
Tertiary Butanol	1	2	
2 mg/ml	421.05	414.75	417.90
20 mg/ml	1596.24	1636.36	1616.30

TABLE 8 - **MEAN HORMONE DATA**

Tab 8a **Phenobarbital**

Tab 8a1 **3 Days**
- Tab 8a1.1 **T3**
- Tab 8a1.2 **T4**
- Tab 8a1.3 **TSH**

Tab 8a2 **14 Days**
- Tab 8a2.1 **T3**
- Tab 8a2.2 **T4**
- Tab 8a2.3 **TSH**

Tab 8b **Tertiary butanol**

Tab 8b1 **3 Days**
- Tab 8b1.1 **T3**
- Tab 8b1.2 **T4**
- Tab 8b1.3 **TSH**

Tab 8b2 **14 Days**
- Tab 8b2.1 **T3**
- Tab 8b2.2 **T4**
- Tab 8b2.3 **TSH**

Tab 8a1.1 **Phenobarbital - 3 Days - T3**

GROUP	DURATION OF EXPOSURE	TEST SUBSTANCE	DOSE LEVELS	NUMBER OF ANIMALS PER GROUP	ANIMAL IDENTITY	
FEMALES					SG1 (Sept. 04, 2008)	SG2 (Sept. 05, 2008)
1	3 Days	Phenobarbital	80 mg/kg/day	15	ST1F3039 to 3047	ST1F3048 to 3053
2	3 Days	Control	0	15	ST2F3054 to 3059	ST2F3060 to 3068
3	3 Days	TERTIARY BUTANOL	2 mg/mL	15	ST3F3069 to 3077	ST3F3078 to 3083
4	3 Days		20 mg/mL	15	ST4F3084 to 3089	ST4F3090 to 3098
FEMALES					SG1 (Sept. 03, 2008)	SG2 (Sept. 04, 2008)
1	14 Days	Phenobarbital	80 mg/kg/day	15	ST1F3099 to 3107	ST1F3108 to 3113
2	14 Days	Control	0	15	ST2F3114 to 3119	ST2F3120 to 3128
3	14 Days	TERTIARY BUTANOL	2 mg/mL	15	ST3F3129 to 3137	ST3F3138 to 3143
4	14 Days		20 mg/mL	15	ST4F3144 to 3149	ST4F3150 to 3158

Notes:

- One missing value corresponds to the animal ST4F3098 that died on Study Day 3 without any significant macroscopic finding. This death was considered not to be treatment-related.

- Due to a limited volume of blood collected some hormone levels were not measured for some animals. The following order of priority was given by the Sponsor: T4 first, then TSH and then T3 if possible.

Study number: SA 08160

Tertiary butanol: mechanistic 14-day toxicity study in the mouse
(hepatotoxicity and thyroid hormone investigations)

Mouse 08-Sep-08 Session: 1 (Scheduled) MEAN ENDOCRINOLOGY DATA:T3 dosage

F e m a l e s / *Dosing phase 1*

	T3a nmol/l
GROUP 2 Control	
0.0 mg/kg (N)	14
Mean	2.17
Std Dev	0.24
GROUP 1 Phenobarbital	
80.0 mg/kg (N)	12
Mean	1.90+
Std Dev	0.21

\+ The group mean is significantly different from the control at P < 0.01

a Ftst;NSg-05/T-test;

Tab 8a1.2 **Phenobarbital - 3 Days - T4**

GROUP	DURATION OF EXPOSURE	TEST SUBSTANCE	DOSE LEVELS	NUMBER OF ANIMALS PER GROUP	ANIMAL IDENTITY	
FEMALES					SG1 (Sept. 04, 2008)	SG2 (Sept. 05, 2008)
1	3 Days	Phenobarbital	80 mg/kg/day	15	ST1F3039 to 3047	ST1F3048 to 3053
2	3 Days	Control	0	15	ST2F3054 to 3059	ST2F3060 to 3068
3	3 Days	TERTIARY BUTANOL	2 mg/mL	15	ST3F3069 to 3077	ST3F3078 to 3083
4	3 Days		20 mg/mL	15	ST4F3084 to 3089	ST4F3090 to 3098
FEMALES					SG1 (Sept. 03, 2008)	SG2 (Sept. 04, 2008)
1	14 Days	Phenobarbital	80 mg/kg/day	15	ST1F3099 to 3107	ST1F3108 to 3113
2	14 Days	Control	0	15	ST2F3114 to 3119	ST2F3120 to 3128
3	14 Days	TERTIARY BUTANOL	2 mg/mL	15	ST3F3129 to 3137	ST3F3138 to 3143
4	14 Days		20 mg/mL	15	ST4F3144 to 3149	ST4F3150 to 3158

Study number: SA 08160

Tertiary butanol: mechanistic 14-day toxicity study in the mouse
(hepatotoxicity and thyroid hormone investigations)

Mouse 08-Sep-08 Session: 1 (Scheduled) MEAN ENDOCRINOLOGY DATA:T4 dosage

F e m a l e s / Dosing phase 1

	T4a nmol/l
GROUP 2 Control	
0.0 mg/kg (N)	15
Mean	43.4
Std Dev	8.0
GROUP 1 Phenobarbital	
80.0 mg/kg (N)	15
Mean	28.7+
Std Dev	6.9

+ The group mean is significantly different from the control at P < 0.01

a Ftst;NSg-05/T-test;

Tab 8a1.3 **Phenobarbital - 3 Days - TSH**

GROUP	DURATION OF EXPOSURE	TEST SUBSTANCE	DOSE LEVELS	NUMBER OF ANIMALS PER GROUP	ANIMAL IDENTITY	
FEMALES					SG1 (Sept. 04, 2008)	SG2 (Sept. 05, 2008)
1	3 Days	Phenobarbital	80 mg/kg/day	15	ST1F3039 to 3047	ST1F3048 to 3053
2	3 Days	Control	0	15	ST2F3054 to 3059	ST2F3060 to 3068
3	3 Days	TERTIARY BUTANOL	2 mg/mL	15	ST3F3069 to 3077	ST3F3078 to 3083
4	3 Days		20 mg/mL	15	ST4F3084 to 3089	ST4F3090 to 3098
FEMALES					SG1 (Sept. 03, 2008)	SG2 (Sept. 04, 2008)
1	14 Days	Phenobarbital	80 mg/kg/day	15	ST1F3099 to 3107	ST1F3108 to 3113
2	14 Days	Control	0	15	ST2F3114 to 3119	ST2F3120 to 3128
3	14 Days	TERTIARY BUTANOL	2 mg/mL	15	ST3F3129 to 3137	ST3F3138 to 3143
4	14 Days		20 mg/mL	15	ST4F3144 to 3149	ST4F3150 to 3158

Notes:

- One missing value corresponds to the animal ST4F3098 that died on Study Day 3 without any significant macroscopic finding. This death was considered not to be treatment-related.

- Due to a limited volume of blood collected some hormone levels were not measured for some animals. The following order of priority was given by the Sponsor: T4 first, then TSH and then T3 if possible.

Study number: SA 08160

Tertiary butanol: mechanistic 14-day toxicity study in the mouse
(hepatotoxicity and thyroid hormone investigations)

Mouse 08-Sep-08 Session: 1 (Scheduled) MEAN ENDOCRINOLOGY DATA:TSH dosage

F e m a l e s / Dosing phase 1

	TSHa ng/ml
GROUP 2 Control	
0.0 mg/kg (N)	14
Mean	2.00
Std Dev	0.54
GROUP 1 Phenobarbital	
80.0 mg/kg (N)	15
Mean	2.23
Std Dev	0.37

a Ftst;NSg-05/T-test;

Tab 8a2.1 **Phenobarbital - 14 Days - T3**

GROUP	DURATION OF EXPOSURE	TEST SUBSTANCE	DOSE LEVELS	NUMBER OF ANIMALS PER GROUP	ANIMAL IDENTITY	
FEMALES					SG1 (Sept. 04, 2008)	SG2 (Sept. 05, 2008)
1	3 Days	Phenobarbital	80 mg/kg/day	15	ST1F3039 to 3047	ST1F3048 to 3053
2	3 Days	Control	0	15	ST2F3054 to 3059	ST2F3060 to 3068
3	3 Days	TERTIARY BUTANOL	2 mg/mL	15	ST3F3069 to 3077	ST3F3078 to 3083
4	3 Days		20 mg/mL	15	ST4F3084 to 3089	ST4F3090 to 3098
FEMALES					SG1 (Sept. 03, 2008)	SG2 (Sept. 04, 2008)
1	14 Days	Phenobarbital	80 mg/kg/day	15	ST1F3099 to 3107	ST1F3108 to 3113
2	14 Days	Control	0	15	ST2F3114 to 3119	ST2F3120 to 3128
3	14 Days	TERTIARY BUTANOL	2 mg/mL	15	ST3F3129 to 3137	ST3F3138 to 3143

Note: Due to a limited volume of blood collected some hormone levels were not measured for some animals. The following order of priority was given by the Sponsor: T4 first, then TSH and then T3 if possible.

Study number: SA-08160

Tertiary butanol: mechanistic 14-day toxicity study in the mouse
(hepatotoxicity and thyroid hormone investigations)

Mouse 18-Sep-08 Session: 1 (Scheduled) MEAN ENDOCRINOLOGY DATA:T3 dosage

F e m a l e s / Dosing phase 1

	T3a nmol/l
GROUP 2 Control	
0.0 mg/kg (N)	15
Mean	2.53
Std Dev	0.22
GROUP 1 Phenobarbital	
80.0 mg/kg (N)	14
Mean	2.01+
Std Dev	0.20

+ The group mean is significantly different from the control at P < 0.01

a Ftst;NSg-05/T-test;

Tab 8a2.2 **Phenobarbital - 14 Days - T4**

GROUP	DURATION OF EXPOSURE	TEST SUBSTANCE	DOSE LEVELS	NUMBER OF ANIMALS PER GROUP	ANIMAL IDENTITY	
FEMALES					SG1 (Sept. 04, 2008)	SG2 (Sept. 05, 2008)
1	3 Days	Phenobarbital	80 mg/kg/day	15	ST1F3039 to 3047	ST1F3048 to 3053
2	3 Days	Control	0	15	ST2F3054 to 3059	ST2F3060 to 3068
3	3 Days	TERTIARY BUTANOL	2 mg/mL	15	ST3F3069 to 3077	ST3F3078 to 3083
4	3 Days		20 mg/mL	15	ST4F3084 to 3089	ST4F3090 to 3098
FEMALES					SG1 (Sept. 03, 2008)	SG2 (Sept. 04, 2008)
1	14 Days	Phenobarbital	80 mg/kg/day	15	ST1F3099 to 3107	ST1F3108 to 3113
2	14 Days	Control	0	15	ST2F3114 to 3119	ST2F3120 to 3128
3	14 Days	TERTIARY BUTANOL	2 mg/mL	15	ST3F3129 to 3137	ST3F3138 to 3143

Tertiary butanol: mechanistic 14-day toxicity study in the mouse
(hepatotoxicity and thyroid hormone investigations)

Mouse 18-Sep-08 Session: 1 (Scheduled) MEAN ENDOCRINOLOGY DATA:T4 dosage

F e m a l e s / Dosing phase 1

	T4a nmol/l
GROUP 2 Control	
0.0 mg/kg (N)	15
Mean	59.7
Std Dev	7.9
GROUP 1 Phenobarbital	
80.0 mg/kg (N)	15
Mean	31.0+
Std Dev	5.0

+ The group mean is significantly different from the control at P < 0.01

a Ftst;NSg-05/T-test;

Tab 8a2.3 **Phenobarbital - 14 Days - TSH**

GROUP	DURATION OF EXPOSURE	TEST SUBSTANCE	DOSE LEVELS	NUMBER OF ANIMALS PER GROUP	ANIMAL IDENTITY	
FEMALES					SG1 (Sept. 04, 2008)	SG2 (Sept. 05, 2008)
1	3 Days	Phenobarbital	80 mg/kg/day	15	ST1F3039 to 3047	ST1F3048 to 3053
2	3 Days	Control	0	15	ST2F3054 to 3059	ST2F3060 to 3068
3	3 Days	TERTIARY BUTANOL	2 mg/mL	15	ST3F3069 to 3077	ST3F3078 to 3083
4	3 Days		20 mg/mL	15	ST4F3084 to 3089	ST4F3090 to 3098
FEMALES					SG1 (Sept. 03, 2008)	SG2 (Sept. 04, 2008)
1	14 Days	Phenobarbital	80 mg/kg/day	15	ST1F3099 to 3107	ST1F3108 to 3113
2	14 Days	Control	0	15	ST2F3114 to 3119	ST2F3120 to 3128
3	14 Days	TERTIARY BUTANOL	2 mg/mL	15	ST3F3129 to 3137	ST3F3138 to 3143

Note: Due to a limited volume of blood collected some hormone levels were not measured for some animals. The following order of priority was given by the Sponsor: T4 first, then TSH and then T3 if possible.

Tertiary butanol: mechanistic 14-day toxicity study in the mouse
(hepatotoxicity and thyroid hormone investigations)

Mouse 18-Sep-08 Session: 1 (Scheduled) MEAN ENDOCRINOLOGY DATA:TSH dosage

F e m a l e s / Dosing phase 1

	TSHa ng/ml
GROUP 2 Control	
0.0 mg/kg (N)	15
Mean	2.21
Std Dev	0.44
GROUP 1 Phenobarbital	
80.0 mg/kg (N)	14
Mean	2.14
Std Dev	0.28

a Ftst;NSg-05/T-test;

Tab 8b1.1 **Tertiary butanol - 3 Days - T3**

GROUP	DURATION OF EXPOSURE	TEST SUBSTANCE	DOSE LEVELS	NUMBER OF ANIMALS PER GROUP	ANIMAL IDENTITY	
FEMALES					SG1 (Sept. 04, 2008)	SG2 (Sept. 05, 2008)
1	3 Days	Phenobarbital	80 mg/kg/day	15	ST1F3039 to 3047	ST1F3048 to 3053
2	3 Days	Control	0	15	ST2F3054 to 3059	ST2F3060 to 3068
3	3 Days	TERTIARY BUTANOL	2 mg/mL	15	ST3F3069 to 3077	ST3F3078 to 3083
4	3 Days		20 mg/mL	15	ST4F3084 to 3089	ST4F3090 to 3098
FEMALES					SG1 (Sept. 03, 2008)	SG2 (Sept. 04, 2008)
1	14 Days	Phenobarbital	80 mg/kg/day	15	ST1F3099 to 3107	ST1F3108 to 3113
2	14 Days	Control	0	15	ST2F3114 to 3119	ST2F3120 to 3128
3	14 Days	TERTIARY BUTANOL	2 mg/mL	15	ST3F3129 to 3137	ST3F3138 to 3143
4	14 Days		20 mg/mL	15	ST4F3144 to 3149	ST4F3150 to 3158

Notes:

- One missing value corresponds to the animal ST4F3098 that died on Study Day 3 without any significant macroscopic finding. This death was considered not to be treatment-related.

- Due to a limited volume of blood collected some hormone levels were not measured for some animals. The following order of priority was given by the Sponsor: T4 first, then TSH and then T3 if possible.

Tertiary butanol: mechanistic 14-day toxicity study in the mouse
(hepatotoxicity and thyroid hormone investigations)

Mouse 08-Sep-08 Session: 1 (Scheduled) MEAN ENDOCRINOLOGY DATA:T3 dosage

F e m a l e s / Dosing phase 1

	T3a nmol/l
GROUP 2 Control	
0.0 mg/kg (N)	14
Mean	2.17
Std Dev	0.24
GROUP 3 Tertiary butanol	
2 mg/ml (N)	14
Mean	2.02
Std Dev	0.27
GROUP 4 Tertiary butanol	
20 mg/ml (N)	11
Mean	2.14
Std Dev	0.39

a Bart;NSg-05/Anova;NSg-05/No unplanned test performed

Tab 8b1.2 **Tertiary butanol - 3 Days - T4**

GROUP	DURATION OF EXPOSURE	TEST SUBSTANCE	DOSE LEVELS	NUMBER OF ANIMALS PER GROUP	ANIMAL IDENTITY	
FEMALES					SG1 (Sept. 04, 2008)	SG2 (Sept. 05, 2008)
1	3 Days	Phenobarbital	80 mg/kg/day	15	ST1F3039 to 3047	ST1F3048 to 3053
2	3 Days	Control	0	15	ST2F3054 to 3059	ST2F3060 to 3068
3	3 Days	TERTIARY BUTANOL	2 mg/mL	15	ST3F3069 to 3077	ST3F3078 to 3083
4	3 Days		20 mg/mL	15	ST4F3084 to 3089	ST4F3090 to 3098
FEMALES					SG1 (Sept. 03, 2008)	SG2 (Sept. 04, 2008)
1	14 Days	Phenobarbital	80 mg/kg/day	15	ST1F3099 to 3107	ST1F3108 to 3113
2	14 Days	Control	0	15	ST2F3114 to 3119	ST2F3120 to 3128
3	14 Days	TERTIARY BUTANOL	2 mg/mL	15	ST3F3129 to 3137	ST3F3138 to 3143
4	14 Days		20 mg/mL	15	ST4F3144 to 3149	ST4F3150 to 3158

Notes:

- One missing value corresponds to the animal ST4F3098 that died on Study Day 3 without any significant macroscopic finding. This death was considered not to be treatment-related.

- Due to a limited volume of blood collected some hormone levels were not measured for some animals. The following order of priority was given by the Sponsor: T4 first, then TSH and then T3 if possible.

Study number: SA 08160

Tertiary butanol: mechanistic 14-day toxicity study in the mouse
(hepatotoxicity and thyroid hormone investigations)

Mouse 08-Sep-08 Session: 1 (Scheduled) MEAN ENDOCRINOLOGY DATA:T4 dosage

F e m a l e s / Dosing phase 1

	T4a nmol/l
GROUP 2 Control	
0.0 mg/kg (N)	15
Mean	43.4
Std Dev	8.0
GROUP 3 Tertiary butanol	
2 mg/ml (N)	15
Mean	44.9
Std Dev	6.5
GROUP 4 Tertiary butanol	
20 mg/ml (N)	12
Mean	44.0
Std Dev	7.5

a Bart;NSg-05/Anova;NSg-05/No unplanned test performed

Tab 8b1.3 **Tertiary butanol - 3 Days - TSH**

GROUP	DURATION OF EXPOSURE	TEST SUBSTANCE	DOSE LEVELS	NUMBER OF ANIMALS PER GROUP	ANIMAL IDENTITY	
FEMALES					SG1 (Sept. 04, 2008)	SG2 (Sept. 05, 2008)
1	3 Days	Phenobarbital	80 mg/kg/day	15	ST1F3039 to 3047	ST1F3048 to 3053
2	3 Days	Control	0	15	ST2F3054 to 3059	ST2F3060 to 3068
3	3 Days	TERTIARY BUTANOL	2 mg/mL	15	ST3F3069 to 3077	ST3F3078 to 3083
4	3 Days		20 mg/mL	15	ST4F3084 to 3089	ST4F3090 to 3098
FEMALES					SG1 (Sept. 03, 2008)	SG2 (Sept. 04, 2008)
1	14 Days	Phenobarbital	80 mg/kg/day	15	ST1F3099 to 3107	ST1F3108 to 3113
2	14 Days	Control	0	15	ST2F3114 to 3119	ST2F3120 to 3128
3	14 Days	TERTIARY BUTANOL	2 mg/mL	15	ST3F3129 to 3137	ST3F3138 to 3143
4	14 Days		20 mg/mL	15	ST4F3144 to 3149	ST4F3150 to 3158

Notes:

- One missing value corresponds to the animal ST4F3098 that died on Study Day 3 without any significant macroscopic finding. This death was considered not to be treatment-related.

- Due to a limited volume of blood collected some hormone levels were not measured for some animals. The following order of priority was given by the Sponsor: T4 first, then TSH and then T3 if possible.

Bayer CropScience
Center of Toxicology
Sophia-Antipolis

Study number: SA 08160

Printed: 27-Nov-08
Page: 1

Tertiary butanol: mechanistic 14-day toxicity study in the mouse
(hepatotoxicity and thyroid hormone investigations)

Mouse 08-Sep-08 Session: 1 (Scheduled) MEAN ENDOCRINOLOGY DATA:TSH dosage

F e m a l e s / Dosing phase 1

	TSHa ng/ml
GROUP 2 Control	
0.0 mg/kg (N)	14
Mean	2.00
Std Dev	0.54
GROUP 3 Tertiary butanol	
2 mg/ml (N)	15
Mean	1.95
Std Dev	0.49
GROUP 4 Tertiary butanol	
20 mg/ml (N)	11
Mean	2.35
Std Dev	0.60

a Bart;NSg-05/Anova;NSg-05/No unplanned test performed

Tab 8b2.1 **Tertiary butanol - 14 Days - T3**

GROUP	DURATION OF EXPOSURE	TEST SUBSTANCE	DOSE LEVELS	NUMBER OF ANIMALS PER GROUP	ANIMAL IDENTITY	
FEMALES					SG1 (Sept. 04, 2008)	SG2 (Sept. 05, 2008)
1	3 Days	Phenobarbital	80 mg/kg/day	15	ST1F3039 to 3047	ST1F3048 to 3053
2	3 Days	Control	0	15	ST2F3054 to 3059	ST2F3060 to 3068
3	3 Days	TERTIARY BUTANOL	2 mg/mL	15	ST3F3069 to 3077	ST3F3078 to 3083
4	3 Days		20 mg/mL	15	ST4F3084 to 3089	ST4F3090 to 3098
FEMALES					SG1 (Sept. 03, 2008)	SG2 (Sept. 04, 2008)
1	14 Days	Phenobarbital	80 mg/kg/day	15	ST1F3099 to 3107	ST1F3108 to 3113
2	14 Days	Control	0	15	ST2F3114 to 3119	ST2F3120 to 3128
3	14 Days	TERTIARY BUTANOL	2 mg/mL	15	ST3F3129 to 3137	ST3F3138 to 3143
4	14 Days		20 mg/mL	15	ST4F3144 to 3149	ST4F3150 to 3158

Note: Due to a limited volume of blood collected some hormone levels were not measured for some animals. The following order of priority was given by the Sponsor: T4 first, then TSH and then T3 if possible.

Study number: SA-08160

Tertiary butanol: mechanistic 14-day toxicity study in the mouse
(hepatotoxicity and thyroid hormone investigations)

Mouse 18-Sep-08 Session: 1 (Scheduled) MEAN ENDOCRINOLOGY DATA:T3 dosage

F e m a l e s / Dosing phase 1

	T3a nmol/l
GROUP 2 Control	
0.0 mg/kg (N)	15
Mean	2.53
Std Dev	0.22
GROUP 3 Tertiary butanol	
2 mg/ml (N)	15
Mean	2.22+
Std Dev	0.19
GROUP 4 Tertiary butanol	
20 mg/ml (N)	13
Mean	2.20+
Std Dev	0.19

\+ The group mean is significantly different from the control at P < 0.01

a Bart;NSg-05/Anova;Sig-05/Dunnett's

Tab 8b2.2 **Tertiary butanol - 14 Days - T4**

GROUP	DURATION OF EXPOSURE	TEST SUBSTANCE	DOSE LEVELS	NUMBER OF ANIMALS PER GROUP	ANIMAL IDENTITY	
FEMALES					SG1 (Sept. 04, 2008)	SG2 (Sept. 05, 2008)
1	3 Days	Phenobarbital	80 mg/kg/day	15	ST1F3039 to 3047	ST1F3048 to 3053
2	3 Days	Control	0	15	ST2F3054 to 3059	ST2F3060 to 3068
3	3 Days	TERTIARY BUTANOL	2 mg/mL	15	ST3F3069 to 3077	ST3F3078 to 3083
4	3 Days		20 mg/mL	15	ST4F3084 to 3089	ST4F3090 to 3098
FEMALES					SG1 (Sept. 03, 2008)	SG2 (Sept. 04, 2008)
1	14 Days	Phenobarbital	80 mg/kg/day	15	ST1F3099 to 3107	ST1F3108 to 3113
2	14 Days	Control	0	15	ST2F3114 to 3119	ST2F3120 to 3128
3	14 Days	TERTIARY BUTANOL	2 mg/mL	15	ST3F3129 to 3137	ST3F3138 to 3143
4	14 Days		20 mg/mL	15	ST4F3144 to 3149	ST4F3150 to 3158

Tertiary butanol: mechanistic 14-day toxicity study in the mouse
(hepatotoxicity and thyroid hormone investigations)

Mouse 18-Sep-08 Session: 1 (Scheduled) MEAN ENDOCRINOLOGY DATA:T4 dosage

F e m a l e s / Dosing phase 1

	T4a nmol/l
GROUP 2 Control	
0.0 mg/kg (N)	15
Mean	59.7
Std Dev	7.9
GROUP 3 Tertiary butanol	
2 mg/ml (N)	15
Mean	50.8*
Std Dev	9.2
GROUP 4 Tertiary butanol	
20 mg/ml (N)	15
Mean	46.7+
Std Dev	9.7

\+ The group mean is significantly different from the control at P < 0.01
* The group mean is significantly different from the control at P < 0.05
a Bart;NSg-05/Anova;Sig-05/Dunnett's

Tab 8b2.3 **Tertiary butanol - 14 Days - TSH**

GROUP	DURATION OF EXPOSURE	TEST SUBSTANCE	DOSE LEVELS	NUMBER OF ANIMALS PER GROUP	ANIMAL IDENTITY	
FEMALES					SG1 (Sept. 04, 2008)	SG2 (Sept. 05, 2008)
1	3 Days	Phenobarbital	80 mg/kg/day	15	ST1F3039 to 3047	ST1F3048 to 3053
2	3 Days	Control	0	15	ST2F3054 to 3059	ST2F3060 to 3068
3	3 Days	TERTIARY BUTANOL	2 mg/mL	15	ST3F3069 to 3077	ST3F3078 to 3083
4	3 Days		20 mg/mL	15	ST4F3084 to 3089	ST4F3090 to 3098
FEMALES					SG1 (Sept. 03, 2008)	SG2 (Sept. 04, 2008)
1	14 Days	Phenobarbital	80 mg/kg/day	15	ST1F3099 to 3107	ST1F3108 to 3113
2	14 Days	Control	0	15	ST2F3114 to 3119	ST2F3120 to 3128
3	14 Days	TERTIARY BUTANOL	2 mg/mL	15	ST3F3129 to 3137	ST3F3138 to 3143
4	14 Days		20 mg/mL	15	ST4F3144 to 3149	ST4F3150 to 3158

Note: Due to a limited volume of blood collected some hormone levels were not measured for some animals. The following order of priority was given by the Sponsor: T4 first, then TSH and then T3 if possible.

Study number: SA-08160

Tertiary butanol: mechanistic 14-day toxicity study in the mouse
(hepatotoxicity and thyroid hormone investigations)

Mouse 18-Sep-08 Session: 1 (Scheduled) MEAN ENDOCRINOLOGY DATA:TSH dosage

F e m a l e s / Dosing phase 1

	TSHa ng/ml
GROUP 2 Control	
0.0 mg/kg (N)	15
Mean	2.21
Std Dev	0.44
GROUP 3 Tertiary butanol	
2 mg/ml (N)	15
Mean	2.33
Std Dev	0.75
GROUP 4 Tertiary butanol	
20 mg/ml (N)	13
Mean	2.17
Std Dev	0.54

a Bart;NSg-05/Anova;NSg-05/No unplanned test performed

TABLE 9 - **MEAN ABSOLUTE AND RELATIVE ORGAN WEIGHTS WITH TERMINAL BODY WEIGHTS**

Tab 9a **Phenobarbital**

Tab 9a1 **3 Days**
Tab 9a2 **14 Days**

Tab 9b **Tertiary butanol**

Tab 9b1 **3 Days**
Tab 9b2 **14 Days**

Tab 9a1 **Phenobarbital - 3 Days**

GROUP	DURATION OF EXPOSURE	TEST SUBSTANCE	DOSE LEVELS	NUMBER OF ANIMALS PER GROUP	ANIMAL IDENTITY	
FEMALES					SG1 (Sept. 04, 2008)	SG2 (Sept. 05, 2008)
1	3 Days	Phenobarbital	80 mg/kg/day	15	ST1F3039 to 3047	ST1F3048 to 3053
2	3 Days	Control	0	15	ST2F3054 to 3059	ST2F3060 to 3068
3	3 Days	TERTIARY BUTANOL	2 mg/mL	15	ST3F3069 to 3077	ST3F3078 to 3083
4	3 Days		20 mg/mL	15	ST4F3084 to 3089	ST4F3090 to 3098
FEMALES					SG1 (Sept. 03, 2008)	SG2 (Sept. 04, 2008)
1	14 Days	Phenobarbital	80 mg/kg/day	15	ST1F3099 to 3107	ST1F3108 to 3113
2	14 Days	Control	0	15	ST2F3114 to 3119	ST2F3120 to 3128
3	14 Days	TERTIARY BUTANOL	2 mg/mL	15	ST3F3129 to 3137	ST3F3138 to 3143
4	14 Days		20 mg/mL	15	ST4F3144 to 3149	ST4F3150 to 3158

Note: There is no reason given for the missing value (mean calculated with 14 values in the corresponding group). The liver of the corresponding animal was sampled and examined.

Tertiary butanol: mechanistic 14-day toxicity study in the mouse
(hepatotoxicity and thyroid hormone investigations)

F e m a l e s MEAN ORGAN WEIGHTS (g), ORGAN/TERMINAL BODY WEIGHT (%) AND ORGAN/BRAIN WEIGHT (%) RATIOS
Scheduled Sacrifices FS

	TBW (g)a	BRAIN (g)	LIVER (g)a	LIVER (%)a	LIVER (%)a
GROUP 2 Control 0.0 mg/kg					
(N)	15	15	15	15	15
Mean	22.2	0.49	1.06	4.753	216.129
Std dev	1.3	0.02	0.14	0.399	30.004
GROUP 1 Phenobarbital 80.0 mg/kg					
(N)	15	15	14	14	14
Mean	21.9	0.50	1.21+	5.506+	243.697+
Std dev	1.0	0.01	0.11	0.401	21.575

+ The group mean is significantly different from the control at P < 0.01
a Ftst;NSg-05/T-test;

Tab 9a2 **Phenobarbital - 14 Days**

GROUP	DURATION OF EXPOSURE	TEST SUBSTANCE	DOSE LEVELS	NUMBER OF ANIMALS PER GROUP	ANIMAL IDENTITY	
FEMALES					SG1 (Sept. 04, 2008)	SG2 (Sept. 05, 2008)
1	3 Days	Phenobarbital	80 mg/kg/day	15	ST1F3039 to 3047	ST1F3048 to 3053
2	3 Days	Control	0	15	ST2F3054 to 3059	ST2F3060 to 3068
3	3 Days	TERTIARY BUTANOL	2 mg/mL	15	ST3F3069 to 3077	ST3F3078 to 3083
4	3 Days		20 mg/mL	15	ST4F3084 to 3089	ST4F3090 to 3098
FEMALES					SG1 (Sept. 03, 2008)	SG2 (Sept. 04, 2008)
1	14 Days	Phenobarbital	80 mg/kg/day	15	ST1F3099 to 3107	ST1F3108 to 3113
2	14 Days	Control	0	15	ST2F3114 to 3119	ST2F3120 to 3128
3	14 Days	TERTIARY BUTANOL	2 mg/mL	15	ST3F3129 to 3137	ST3F3138 to 3143
4	14 Days		20 mg/mL	15	ST4F3144 to 3149	ST4F3150 to 3158

Note: There is no reason given for the missing value (mean calculated with 14 values in the corresponding group). The liver of the corresponding animal was sampled and examined.

Study number: SA-08160

Tertiary butanol: mechanistic 14-day toxicity study in the mouse
(hepatotoxicity and thyroid hormone investigations)

MEAN ORGAN WEIGHTS (g), ORGAN/TERMINAL BODY WEIGHT (%) AND ORGAN/BRAIN WEIGHT (%) RATIOS

	TBW (g)a	BRAIN (g)	LIVER (g)a	LIVER (%)b	LIVER (%)a
GROUP 2 Control 0.0 mg/kg					
(N)	15	15	15	15	15
Mean	21.9	0.47	1.06	4.812	222.588
Std dev	1.3	0.02	0.11	0.344	19.432
GROUP 1 Phenobarbital 80.0 mg/kg					
(N)	15	15	14	14	14
Mean	21.0	0.48	1.20+	5.752+	252.219+
Std dev	1.3	0.02	0.10	0.189	19.473

\+ The group mean is significantly different from the control at P < 0.01
a Ftst;NSg-05/T-test;
b Ftst;Sig-05/T-Test

Tab 9b1 **Tertiary butanol - 3 Days**

GROUP	DURATION OF EXPOSURE	TEST SUBSTANCE	DOSE LEVELS	NUMBER OF ANIMALS PER GROUP	ANIMAL IDENTITY	
FEMALES					SG1 (Sept. 04, 2008)	SG2 (Sept. 05, 2008)
1	3 Days	Phenobarbital	80 mg/kg/day	15	ST1F3039 to 3047	ST1F3048 to 3053
2	3 Days	Control	0	15	ST2F3054 to 3059	ST2F3060 to 3068
3	3 Days	TERTIARY BUTANOL	2 mg/mL	15	ST3F3069 to 3077	ST3F3078 to 3083
4	3 Days		20 mg/mL	15	ST4F3084 to 3089	ST4F3090 to 3098
FEMALES					SG1 (Sept. 03, 2008)	SG2 (Sept. 04, 2008)
1	14 Days	Phenobarbital	80 mg/kg/day	15	ST1F3099 to 3107	ST1F3108 to 3113
2	14 Days	Control	0	15	ST2F3114 to 3119	ST2F3120 to 3128
3	14 Days	TERTIARY BUTANOL	2 mg/mL	15	ST3F3129 to 3137	ST3F3138 to 3143
4	14 Days		20 mg/mL	15	ST4F3144 to 3149	ST4F3150 to 3158

Note: The missing value corresponds to the animal ST4F3098 that died on Study Day 3 without any significant macroscopic finding. This death was considered not to be treatment-related.

Study number: SA 08160

Tertiary butanol: mechanistic 14-day toxicity study in the mouse
(hepatotoxicity and thyroid hormone investigations)

F e m a l e s MEAN ORGAN WEIGHTS (g), ORGAN/TERMINAL BODY WEIGHT (%) AND ORGAN/BRAIN WEIGHT (%) RATIOS

Scheduled Sacrifices FS

	TBW (g)a	BRAIN (g)	LIVER (g)a	LIVER (%)a	LIVER (%)b
GROUP 2 Control 0.0 mg/kg					
(N)	15	15	15	15	15
Mean	22.2	0.49	1.06	4.753	216.129
Std dev	1.3	0.02	0.14	0.399	30.004
GROUP 3 Tertiary butanol 2 mg/ml					
(N)	15	15	15	15	15
Mean	22.2	0.48	1.04	4.673	214.080
Std dev	1.0	0.01	0.09	0.289	17.331
GROUP 4 Tertiary butanol 20 mg/ml					
(N)	14	14	14	14	14
Mean	22.2	0.48	1.08	4.883	226.439
Std dev	0.8	0.01	0.08	0.324	15.942

a Bart;NSg-05/Anova;NSg-05/No unplanned test performed
b Bart;Sig-05/NP-KW;NSg-05/No unplanned test performed

Tab 9b2 **Tertiary butanol - 14 Days**

GROUP	DURATION OF EXPOSURE	TEST SUBSTANCE	DOSE LEVELS	NUMBER OF ANIMALS PER GROUP	ANIMAL IDENTITY	
FEMALES					SG1 (Sept. 04, 2008)	SG2 (Sept. 05, 2008)
1	3 Days	Phenobarbital	80 mg/kg/day	15	ST1F3039 to 3047	ST1F3048 to 3053
2	3 Days	Control	0	15	ST2F3054 to 3059	ST2F3060 to 3068
3	3 Days	TERTIARY BUTANOL	2 mg/mL	15	ST3F3069 to 3077	ST3F3078 to 3083
4	3 Days		20 mg/mL	15	ST4F3084 to 3089	ST4F3090 to 3098
FEMALES					SG1 (Sept. 03, 2008)	SG2 (Sept. 04, 2008)
1	14 Days	Phenobarbital	80 mg/kg/day	15	ST1F3099 to 3107	ST1F3108 to 3113
2	14 Days	Control	0	15	ST2F3114 to 3119	ST2F3120 to 3128
3	14 Days	TERTIARY BUTANOL	2 mg/mL	15	ST3F3129 to 3137	ST3F3138 to 3143
4	14 Days		20 mg/mL	15	ST4F3144 to 3149	ST4F3150 to 3158

Study number: SA-08160

Tertiary butanol: mechanistic 14-day toxicity study in the mouse
(hepatotoxicity and thyroid hormone investigations)

MEAN ORGAN WEIGHTS (g), ORGAN/TERMINAL BODY WEIGHT (%) AND ORGAN/BRAIN WEIGHT (%) RATIOS

	TBW (g)a	BRAIN (g)	LIVER (g)a	LIVER (%)a	LIVER (%)a
GROUP 2 Control 0.0 mg/kg					
(N)	15	15	15	15	15
Mean	21.9	0.47	1.06	4.812	222.588
Std dev	1.3	0.02	0.11	0.344	19.432
GROUP 3 Tertiary butanol 2 mg/ml					
(N)	15	15	15	15	15
Mean	22.1	0.48	1.09	4.950	229.341
Std dev	0.8	0.02	0.08	0.258	18.675
GROUP 4 Tertiary butanol 20 mg/ml					
(N)	15	15	15	15	15
Mean	22.5	0.47	1.12	4.984	237.840
Std dev	1.1	0.02	0.10	0.242	24.461

a Bart;NSg-05/Anova;NSg-05/No unplanned test performed

TABLE 10 - INCIDENCE SUMMARY TABLE OF GROSS PATHOLOGY FINDINGS

Tab 10a **Phenobarbital**

Tab 10a1 **3 Days**
Tab 10a2 **14 Days**

Tab 10b **Tertiary butanol**

Tab 10b1 **3 Days**
Tab 10b1.1 **Unscheduled**
Tab 10b1.2 **Scheduled**

Tab 10b2 **14 Days**

Tab 10a1 **Phenobarbital - 3 Days**

GROUP	DURATION OF EXPOSURE	TEST SUBSTANCE	DOSE LEVELS	NUMBER OF ANIMALS PER GROUP	ANIMAL IDENTITY	
FEMALES					SG1 (Sept. 04, 2008)	SG2 (Sept. 05, 2008)
1	3 Days	Phenobarbital	80 mg/kg/day	15	ST1F3039 to 3047	ST1F3048 to 3053
2	3 Days	Control	0	15	ST2F3054 to 3059	ST2F3060 to 3068
3	3 Days	TERTIARY BUTANOL	2 mg/mL	15	ST3F3069 to 3077	ST3F3078 to 3083
4	3 Days		20 mg/mL	15	ST4F3084 to 3089	ST4F3090 to 3098
FEMALES					SG1 (Sept. 03, 2008)	SG2 (Sept. 04, 2008)
1	14 Days	Phenobarbital	80 mg/kg/day	15	ST1F3099 to 3107	ST1F3108 to 3113
2	14 Days	Control	0	15	ST2F3114 to 3119	ST2F3120 to 3128
3	14 Days	TERTIARY BUTANOL	2 mg/mL	15	ST3F3129 to 3137	ST3F3138 to 3143
4	14 Days		20 mg/mL	15	ST4F3144 to 3149	ST4F3150 to 3158

Bayer CropScience
Center of Toxicology
Sophia-Antipolis
Mouse/B6C3F1

Incidence Summary Report for Gross Observations
Study number: SA 08160
Scheduled Sacrifices FS
Study start date: 04-Sep-08

Printed: 27-Oct-08
Page: 1

Mechanistic study/Exploratory study

Controls from group(s): 2 Animal sex: F E M A L E S
Dosing units: mg/kg Group dosage level: Ctls 80.0
Number in group: 15 15

THYROID GLAND(S)		
Focus(i), black	0	1
Congested / red	0	1
GENERAL COMMENT		
All organs, no abnormality	14	12
ADRENAL GLAND(S)		
Enlarged	0	1
OVARY(IES)		
Nodule(s)/Mass(es)	1	0

Tab 10a2 **Phenobarbital - 14 Days**

GROUP	DURATION OF EXPOSURE	TEST SUBSTANCE	DOSE LEVELS	NUMBER OF ANIMALS PER GROUP	ANIMAL IDENTITY	
FEMALES					SG1 (Sept. 04, 2008)	SG2 (Sept. 05, 2008)
1	3 Days	Phenobarbital	80 mg/kg/day	15	ST1F3039 to 3047	ST1F3048 to 3053
2	3 Days	Control	0	15	ST2F3054 to 3059	ST2F3060 to 3068
3	3 Days	TERTIARY BUTANOL	2 mg/mL	15	ST3F3069 to 3077	ST3F3078 to 3083
4	3 Days		20 mg/mL	15	ST4F3084 to 3089	ST4F3090 to 3098
FEMALES					SG1 (Sept. 03, 2008)	SG2 (Sept. 04, 2008)
1	14 Days	Phenobarbital	80 mg/kg/day	15	ST1F3099 to 3107	ST1F3108 to 3113
2	14 Days	Control	0	15	ST2F3114 to 3119	ST2F3120 to 3128
3	14 Days	TERTIARY BUTANOL	2 mg/mL	15	ST3F3129 to 3137	ST3F3138 to 3143
4	14 Days		20 mg/mL	15	ST4F3144 to 3149	ST4F3150 to 3158

Bayer CropScience
Center of Toxicology
Sophia-Antipolis
Mouse/B6C3F1

Incidence Summary Report for Gross Observations
Study number: SA-08160
Scheduled Sacrifices FS
Study start date: 03-Sep-08

Printed: 27-Oct-08
Page: 1

Mechanistic study/Exploratory study

Controls from group(s): 2 Animal sex: F E M A L E S
Dosing units: mg/kg Group dosage level: Ctls 80.0
Number in group: 15 15

LIVER		
Enlarged	0	13
Dark	1	0
Mottled, white	0	1
THYROID GLAND(S)		
Enlarged	0	1
GENERAL COMMENT		
All organs, no abnormality	14	2

Tab 10b1.1 **Tertiary butanol - 3 Days - Unscheduled**

GROUP	DURATION OF EXPOSURE	TEST SUBSTANCE	DOSE LEVELS	NUMBER OF ANIMALS PER GROUP	ANIMAL IDENTITY	
FEMALES					SG1 (Sept. 04, 2008)	SG2 (Sept. 05, 2008)
1	3 Days	Phenobarbital	80 mg/kg/day	15	ST1F3039 to 3047	ST1F3048 to 3053
2	3 Days	Control	0	15	ST2F3054 to 3059	ST2F3060 to 3068
3	3 Days	TERTIARY BUTANOL	2 mg/mL	15	ST3F3069 to 3077	ST3F3078 to 3083
4	3 Days		20 mg/mL	15	ST4F3084 to 3089	ST4F3090 to 3098
FEMALES					SG1 (Sept. 03, 2008)	SG2 (Sept. 04, 2008)
1	14 Days	Phenobarbital	80 mg/kg/day	15	ST1F3099 to 3107	ST1F3108 to 3113
2	14 Days	Control	0	15	ST2F3114 to 3119	ST2F3120 to 3128
3	14 Days	TERTIARY BUTANOL	2 mg/mL	15	ST3F3129 to 3137	ST3F3138 to 3143
4	14 Days		20 mg/mL	15	ST4F3144 to 3149	ST4F3150 to 3158

Bayer CropScience
Center of Toxicology
Sophia-Antipolis
Mouse/B6C3F1

Incidence Summary Report for Gross Observations
Study number: SA 08160
Unscheduled Sacrifices U1
Study start date: 04-Sep-08

Printed: 27-Oct-08
Page: 1
Mechanistic study/Exploratory study

Controls from group(s): 2	Animal sex:	F E M A L E S		
Dosing units: mg/ml	Group dosage level:	Ctls	2	20
	Number in group:	0	0	1
GENERAL COMMENT				
Autolysis		0	0	1

Tab 10b1.2 **Tertiary butanol - 3 Days - Scheduled**

GROUP	DURATION OF EXPOSURE	TEST SUBSTANCE	DOSE LEVELS	NUMBER OF ANIMALS PER GROUP	ANIMAL IDENTITY	
FEMALES					SG1 (Sept. 04, 2008)	SG2 (Sept. 05, 2008)
1	3 Days	Phenobarbital	80 mg/kg/day	15	ST1F3039 to 3047	ST1F3048 to 3053
2	3 Days	Control	0	15	ST2F3054 to 3059	ST2F3060 to 3068
3	3 Days	TERTIARY BUTANOL	2 mg/mL	15	ST3F3069 to 3077	ST3F3078 to 3083
4	3 Days		20 mg/mL	15	ST4F3084 to 3089	ST4F3090 to 3098
FEMALES					SG1 (Sept. 03, 2008)	SG2 (Sept. 04, 2008)
1	14 Days	Phenobarbital	80 mg/kg/day	15	ST1F3099 to 3107	ST1F3108 to 3113
2	14 Days	Control	0	15	ST2F3114 to 3119	ST2F3120 to 3128
3	14 Days	TERTIARY BUTANOL	2 mg/mL	15	ST3F3129 to 3137	ST3F3138 to 3143
4	14 Days		20 mg/mL	15	ST4F3144 to 3149	ST4F3150 to 3158

Note: The missing value corresponds to the animal ST4F3098 that died on Study Day 3 without any significant macroscopic finding. This death was considered not to be treatment-related.

Bayer CropScience
Center of Toxicology
Sophia-Antipolis
Mouse/B6C3F1

Incidence Summary Report for Gross Observations
Study number: SA 08160
Scheduled Sacrifices FS
Study start date: 04-Sep-08

Printed: 27-Oct-08
Page: 1

Mechanistic study/Exploratory study

Controls from group(s): 2 Animal sex: F E M A L E S
Dosing units: mg/ml Group dosage level:

	Ctls	2	20
Number in group:	15	15	14
THYROID GLAND(S)			
Enlarged	0	1	0
Focus(i), red	0	1	0
GENERAL COMMENT			
All organs, no abnormality	14	12	14
OVARY(IES)			
Nodule(s)/Mass(es)	1	0	0
ADRENAL GLAND(S)			
Enlarged	0	1	0

Tab 10b2. **Tertiary butanol - 14 Days**

GROUP	DURATION OF EXPOSURE	TEST SUBSTANCE	DOSE LEVELS	NUMBER OF ANIMALS PER GROUP	ANIMAL IDENTITY	
FEMALES					SG1 (Sept. 04, 2008)	SG2 (Sept. 05, 2008)
1	3 Days	Phenobarbital	80 mg/kg/day	15	ST1F3039 to 3047	ST1F3048 to 3053
2	3 Days	Control	0	15	ST2F3054 to 3059	ST2F3060 to 3068
3	3 Days	TERTIARY BUTANOL	2 mg/mL	15	ST3F3069 to 3077	ST3F3078 to 3083
4	3 Days		20 mg/mL	15	ST4F3084 to 3089	ST4F3090 to 3098
FEMALES					SG1 (Sept. 03, 2008)	SG2 (Sept. 04, 2008)
1	14 Days	Phenobarbital	80 mg/kg/day	15	ST1F3099 to 3107	ST1F3108 to 3113
2	14 Days	Control	0	15	ST2F3114 to 3119	ST2F3120 to 3128
3	14 Days	TERTIARY BUTANOL	2 mg/mL	15	ST3F3129 to 3137	ST3F3138 to 3143
4	14 Days		20 mg/mL	15	ST4F3144 to 3149	ST4F3150 to 3158

Bayer CropScience
Center of Toxicology
Sophia-Antipolis
Mouse/B6C3F1

Incidence Summary Report for Gross Observations
Study number: SA-08160
Scheduled Sacrifices FS
Study start date: 03-Sep-08

Printed: 27-Oct-08
Page: 1
Mechanistic study/Exploratory study

Controls from group(s): 2 Animal sex: F E M A L E S
Dosing units: mg/ml Group dosage level: Ctls 2 20
Number in group: 15 15 15

LIVER			
Enlarged	0	3	3
Dark	1	0	0
Focus(i), red	0	1	0
THYROID GLAND(S)			
Enlarged	0	0	1
GENERAL COMMENT			
All organs, no abnormality	14	11	11
SPLEEN			
Enlarged	0	0	1

TABLE 11 - INCIDENCE SUMMARY TABLE OF MICROSCOPIC PATHOLOGY FINDINGS

Tab 11a **Phenobarbital**

Tab 11a1 **3 Days**
Tab 11a2 **14 Days**

Tab 11b **Tertiary butanol**

Tab 11b1 **3 Days**
Tab 11b1.1 **Unscheduled**
Tab 11b1.2 **Scheduled**

Tab 11b2 **14 Days**

Tab 11a1 **Phenobarbital - 3 Days**

GROUP	DURATION OF EXPOSURE	TEST SUBSTANCE	DOSE LEVELS	NUMBER OF ANIMALS PER GROUP	ANIMAL IDENTITY	
FEMALES					SG1 (Sept. 04, 2008)	SG2 (Sept. 05, 2008)
1	3 Days	Phenobarbital	80 mg/kg/day	15	ST1F3039 to 3047	ST1F3048 to 3053
2	3 Days	Control	0	15	ST2F3054 to 3059	ST2F3060 to 3068
3	3 Days	TERTIARY BUTANOL	2 mg/mL	15	ST3F3069 to 3077	ST3F3078 to 3083
4	3 Days		20 mg/mL	15	ST4F3084 to 3089	ST4F3090 to 3098
FEMALES					SG1 (Sept. 03, 2008)	SG2 (Sept. 04, 2008)
1	14 Days	Phenobarbital	80 mg/kg/day	15	ST1F3099 to 3107	ST1F3108 to 3113
2	14 Days	Control	0	15	ST2F3114 to 3119	ST2F3120 to 3128
3	14 Days	TERTIARY BUTANOL	2 mg/mL	15	ST3F3129 to 3137	ST3F3138 to 3143
4	14 Days		20 mg/mL	15	ST4F3144 to 3149	ST4F3150 to 3158

Bayer CropScience
Center of Toxicology
Sophia-Antipolis
Mouse/B6C3F1

Incidence summary of microscopic pathology findings
SA 08160
P.T.S.4.2.2

Printed :31-Oct-08
Page :1
Mechanistic study/Exploratory study

Controls from group(s): 2	Animal sex:	-- Animals Affected -- Females --	
Dosing units: mg/kg	Group dosage level:	0.0	80.0
Tissues With Diagnoses	No. in group:	15	15
LIVER	Number examined:	5	5
	Unremarkable:	0	0
Centrilobular hepatocellular hypertrophy: diffuse		0	5
Increased number of mitoses		0	4
Hepatocellular glycogen accumulation: diffuse		5	4
Interstitial mononuclear cell infiltrate: focal/multifocal		1	1
Interstitial mixed cell infiltrate: focal/multifocal		4	0
THYROID GLAND(S)	Number examined:	15	14
	Unremarkable:	15	12
Ultimo-branchial cyst(s)		0	0
Ectopic thymic tissue		0	0
Follicular cyst(s)		0	1
Interstitial mononuclear cell infiltrate: focal/multifocal		0	1
ADRENAL GLAND(S)	Number examined:	0	0
	Unremarkable:	0	0
OVARY(IES)	Number examined:	1	0
	Unremarkable:	0	0
B-Teratoma, benign		1	0

All Diagnoses; Phases: All; Death types: Scheduled FS; Date of death range: 08-Sep-08 To 09-Sep-08

Tab 11a2 **Phenobarbital - 14 Days**

GROUP	DURATION OF EXPOSURE	TEST SUBSTANCE	DOSE LEVELS	NUMBER OF ANIMALS PER GROUP	ANIMAL IDENTITY	
FEMALES					SG1 (Sept. 04, 2008)	SG2 (Sept. 05, 2008)
1	3 Days	Phenobarbital	80 mg/kg/day	15	ST1F3039 to 3047	ST1F3048 to 3053
2	3 Days	Control	0	15	ST2F3054 to 3059	ST2F3060 to 3068
3	3 Days	TERTIARY BUTANOL	2 mg/mL	15	ST3F3069 to 3077	ST3F3078 to 3083
4	3 Days		20 mg/mL	15	ST4F3084 to 3089	ST4F3090 to 3098
FEMALES					SG1 (Sept. 03, 2008)	SG2 (Sept. 04, 2008)
1	14 Days	Phenobarbital	80 mg/kg/day	15	ST1F3099 to 3107	ST1F3108 to 3113
2	14 Days	Control	0	15	ST2F3114 to 3119	ST2F3120 to 3128
3	14 Days	TERTIARY BUTANOL	2 mg/mL	15	ST3F3129 to 3137	ST3F3138 to 3143
4	14 Days		20 mg/mL	15	ST4F3144 to 3149	ST4F3150 to 3158

Bayer CropScience
Center of Toxicology
Sophia-Antipolis
Mouse/B6C3F1

Incidence summary of microscopic pathology findings
SA-08160
P.T.S.4.2.2

Printed :31-Oct-08
Page :1
Mechanistic study/Exploratory study

Controls from group(s): 2
Dosing units: mg/kg

T i s s u e s W i t h D i a g n o s e s	Animal sex:	-- A n i m a l s A f f e c t e d -- -- F e m a l e s --	
	Group dosage level:	0.0	80.0
	No. in group:	15	15
LIVER	Number examined:	6	6
	Unremarkable:	0	0
Centrilobular hepatocellular hypertrophy: diffuse		0	5
Increased number of mitoses		0	0
Hepatocellular glycogen accumulation: diffuse		5	5
Interstitial mononuclear cell infiltrate: focal/multifocal		4	5
Interstitial mixed cell infiltrate: focal/multifocal		3	0
Lobar torsion		1	1
THYROID GLAND(S)	Number examined:	14	14
	Unremarkable:	10	11
Ultimo-branchial cyst(s)		0	0
Ectopic thymic tissue		2	0
Follicular cyst(s)		2	2
Interstitial mononuclear cell infiltrate: focal/multifocal		0	0
C cell hyperplasia: focal/multifocal		0	1

All Diagnoses; Phases: All; Death types: Scheduled FS; Date of death range: 18-Sep-08 To 19-Sep-08

Tab 11b1.1 **Tertiary butanol - 3 Days - Unscheduled**

GROUP	DURATION OF EXPOSURE	TEST SUBSTANCE	DOSE LEVELS	NUMBER OF ANIMALS PER GROUP	ANIMAL IDENTITY	
FEMALES					SG1 (Sept. 04, 2008)	SG2 (Sept. 05, 2008)
1	3 Days	Phenobarbital	80 mg/kg/day	15	ST1F3039 to 3047	ST1F3048 to 3053
2	3 Days	Control	0	15	ST2F3054 to 3059	ST2F3060 to 3068
3	3 Days	TERTIARY BUTANOL	2 mg/mL	15	ST3F3069 to 3077	ST3F3078 to 3083
4	3 Days		20 mg/mL	15	ST4F3084 to 3089	ST4F3090 to 3098
FEMALES					SG1 (Sept. 03, 2008)	SG2 (Sept. 04, 2008)
1	14 Days	Phenobarbital	80 mg/kg/day	15	ST1F3099 to 3107	ST1F3108 to 3113
2	14 Days	Control	0	15	ST2F3114 to 3119	ST2F3120 to 3128
3	14 Days	TERTIARY BUTANOL	2 mg/mL	15	ST3F3129 to 3137	ST3F3138 to 3143
4	14 Days		20 mg/mL	15	ST4F3144 to 3149	ST4F3150 to 3158

Bayer CropScience
Center of Toxicology
Sophia-Antipolis
Mouse/B6C3F1

Incidence summary of microscopic pathology findings
SA 08160
P.T.S.4.2.2

Printed :31-Oct-08
Page :1
Mechanistic study/Exploratory study

		-- Animals Affected --		
Controls from group(s): 2	Animal sex:	-- Females --		
Dosing units: mg/ml	Group dosage level:	0.0	2	20
Tissues With Diagnoses	No. in group:	0	0	1
LIVER .....Number examined:		0	0	1
	Unremarkable:	0	0	0
Centrilobular hepatocellular hypertrophy: diffuse		0	0	0
Increased number of mitoses		0	0	0
Hepatocellular glycogen accumulation: diffuse		0	0	1
Interstitial mononuclear cell infiltrate: focal/multifocal		0	0	0
Interstitial mixed cell infiltrate: focal/multifocal		0	0	0
THYROID GLAND(S) .....Number examined:		0	0	0
	Unremarkable:	0	0	0
ADRENAL GLAND(S) .....Number examined:		0	0	0
	Unremarkable:	0	0	0
OVARY(IES) .....Number examined:		0	0	0
	Unremarkable:	0	0	0

All Diagnoses; Phases: All; Death types: All unscheduled; Date of death range: 07-Sep-08 To 07-Sep-08

Tab 11b1.2 **Tertiary butanol - 3 Days - Scheduled**

GROUP	DURATION OF EXPOSURE	TEST SUBSTANCE	DOSE LEVELS	NUMBER OF ANIMALS PER GROUP	ANIMAL IDENTITY	
FEMALES					SG1 (Sept. 04, 2008)	SG2 (Sept. 05, 2008)
1	3 Days	Phenobarbital	80 mg/kg/day	15	ST1F3039 to 3047	ST1F3048 to 3053
2	3 Days	Control	0	15	ST2F3054 to 3059	ST2F3060 to 3068
3	3 Days	TERTIARY BUTANOL	2 mg/mL	15	ST3F3069 to 3077	ST3F3078 to 3083
4	3 Days		20 mg/mL	15	ST4F3084 to 3089	ST4F3090 to 3098
FEMALES					SG1 (Sept. 03, 2008)	SG2 (Sept. 04, 2008)
1	14 Days	Phenobarbital	80 mg/kg/day	15	ST1F3099 to 3107	ST1F3108 to 3113
2	14 Days	Control	0	15	ST2F3114 to 3119	ST2F3120 to 3128
3	14 Days	TERTIARY BUTANOL	2 mg/mL	15	ST3F3129 to 3137	ST3F3138 to 3143
4	14 Days		20 mg/mL	15	ST4F3144 to 3149	ST4F3150 to 3158

Note: The missing value corresponds to the animal ST4F3098 that died on Study Day 3 without any significant macroscopic finding. This death was considered not to be treatment-related.

Bayer CropScience
Center of Toxicology
Sophia-Antipolis
Mouse/B6C3F1

Incidence summary of microscopic pathology findings
SA 08160
P.T.S.4.2.2

Printed :31-Oct-08
Page :1
Mechanistic study/Exploratory study

		-- Animals Affected --		
Controls from group(s): 2	Animal sex:	-- Females --		
Dosing units: mg/ml	Group dosage level:	0.0	2	20
Tissues With Diagnoses	No. in group:	15	15	14
LIVER	Number examined:	5	0	4
	Unremarkable:	0	0	0
Centrilobular hepatocellular hypertrophy: diffuse		0	0	0
Increased number of mitoses		0	0	0
Hepatocellular glycogen accumulation: diffuse		5	0	4
Interstitial mononuclear cell infiltrate: focal/multifocal		1	0	1
Interstitial mixed cell infiltrate: focal/multifocal		4	0	0
THYROID GLAND(S)	Number examined:	15	15	14
	Unremarkable:	15	11	11
Ultimo-branchial cyst(s)		0	0	1
Ectopic thymic tissue		0	0	1
Follicular cyst(s)		0	4	1
Interstitial mononuclear cell infiltrate: focal/multifocal		0	0	0
ADRENAL GLAND(S)	Number examined:	0	1	0
	Unremarkable:	0	0	0
Subcapsular cell hyperplasia: focal/multifocal		0	1	0
OVARY(IES)	Number examined:	1	0	0
	Unremarkable:	0	0	0
B-Teratoma, benign		1	0	0

All Diagnoses; Phases: All; Death types: Scheduled FS; Date of death range: 08-Sep-08 To 09-Sep-08

Tab 11b2. **Tertiary butanol - 14 Days**

GROUP	DURATION OF EXPOSURE	TEST SUBSTANCE	DOSE LEVELS	NUMBER OF ANIMALS PER GROUP	ANIMAL IDENTITY	
FEMALES					SG1 (Sept. 04, 2008)	SG2 (Sept. 05, 2008)
1	3 Days	Phenobarbital	80 mg/kg/day	15	ST1F3039 to 3047	ST1F3048 to 3053
2	3 Days	Control	0	15	ST2F3054 to 3059	ST2F3060 to 3068
3	3 Days	TERTIARY BUTANOL	2 mg/mL	15	ST3F3069 to 3077	ST3F3078 to 3083
4	3 Days		20 mg/mL	15	ST4F3084 to 3089	ST4F3090 to 3098
FEMALES					SG1 (Sept. 03, 2008)	SG2 (Sept. 04, 2008)
1	14 Days	Phenobarbital	80 mg/kg/day	15	ST1F3099 to 3107	ST1F3108 to 3113
2	14 Days	Control	0	15	ST2F3114 to 3119	ST2F3120 to 3128
3	14 Days	TERTIARY BUTANOL	2 mg/mL	15	ST3F3129 to 3137	ST3F3138 to 3143
4	14 Days		20 mg/mL	15	ST4F3144 to 3149	ST4F3150 to 3158

Bayer CropScience
Center of Toxicology
Sophia-Antipolis
Mouse/B6C3F1

Incidence summary of microscopic pathology findings
SA-08160
P.T.S.4.2.2

Printed :31-Oct-08
Page :1
Mechanistic study/Exploratory study

Controls from group(s): 2
Dosing units: mg/ml

Tissues With Diagnoses	Animal sex:	-- Animals Affected -- Females --		
	Group dosage level:	0.0	2	20
	No. in group:	15	15	15
LIVER	Number examined:	6	5	5
	Unremarkable:	0	0	0
Centrilobular hepatocellular hypertrophy: diffuse		0	0	2
Increased number of mitoses		0	0	1
Hepatocellular glycogen accumulation: diffuse		5	5	5
Interstitial mononuclear cell infiltrate: focal/multifocal		4	3	1
Interstitial mixed cell infiltrate: focal/multifocal		3	2	3
Lobar torsion		1	1	0
THYROID GLAND(S)	Number examined:	14	15	15
	Unremarkable:	10	14	14
Ultimo-branchial cyst(s)		0	0	0
Ectopic thymic tissue		2	1	0
Follicular cyst(s)		2	0	0
Interstitial mononuclear cell infiltrate: focal/multifocal		0	0	0
C cell hyperplasia: focal/multifocal		0	0	1

All Diagnoses; Phases: All; Death types: Scheduled FS; Date of death range: 18-Sep-08 To 19-Sep-08

TABLE 12 - **MEAN TOTAL CYTOCHROME P-450 CONTENT**

GROUP	DURATION OF EXPOSURE	TEST SUBSTANCE	DOSE LEVELS	NUMBER OF ANIMALS PER GROUP	ANIMAL IDENTITY	
FEMALES					SG1 (Sept. 04, 2008)	SG2 (Sept. 05, 2008)
1	3 Days	Phenobarbital	80 mg/kg/day	15	ST1F3039 to 3047	ST1F3048 to 3053
2	3 Days	Control	0	15	ST2F3054 to 3059	ST2F3060 to 3068
3	3 Days	TERTIARY BUTANOL	2 mg/mL	15	ST3F3069 to 3077	ST3F3078 to 3083
4	3 Days		20 mg/mL	15	ST4F3084 to 3089	ST4F3090 to 3098
FEMALES					SG1 (Sept. 03, 2008)	SG2 (Sept. 04, 2008)
1	14 Days	Phenobarbital	80 mg/kg/day	15	ST1F3099 to 3107	ST1F3108 to 3113
2	14 Days	Control	0	15	ST2F3114 to 3119	ST2F3120 to 3128
3	14 Days	TERTIARY BUTANOL	2 mg/mL	15	ST3F3129 to 3137	ST3F3138 to 3143
4	14 Days		20 mg/mL	15	ST4F3144 to 3149	ST4F3150 to 3158

Note: Due to the premature death of the animal ST4F3098, which was a part of the pool 4FE (Tertiary butanol 20 mg/ml, 3 days of treatment), the livers of the two remaining animals were included in the pools 4FC and 4FD of the same treatment group. For that reason, the Group 4 (3 days of treatment) was composed of four pools instead of the five initially scheduled. Due to the unexpected results obtained for the pools 1FE and 4FD (maybe inverted during the microsomal preparations process) these two samples were not included in the mean calculations.

Study SA 08160
Total P-450 content

GROUP	DOSE LEVEL		FEMALE
1 (3 days)	Phenobarbital 80 mg/kg/day	N	4
		MEAN	2.07
		STD	0.09
1 (14 days)		N	5
		MEAN	2.23
		STD	0.13
2 (3 days)	0	N	5
		MEAN	0.90
		STD	0.09
2 (14 days)		N	5
		MEAN	0.96
		STD	0.04
3 (3 days)	Tertiary Butanol 2 mg/ml	N	5
		MEAN	1.02
		STD	0.11
3 (14 days)		N	5
		MEAN	1.14
		STD	0.22
4 (3 days)	Tertiary Butanol 20 mg/ml	N	3
		MEAN	1.03
		STD	0.05
4 (14 days)		N	5
		MEAN	1.50
		STD	0.33

TABLE 13 - **MEAN ETHOXYRESORUFIN O-DEETHYLATION IN RATS**

GROUP	DURATION OF EXPOSURE	TEST SUBSTANCE	DOSE LEVELS	NUMBER OF ANIMALS PER GROUP	ANIMAL IDENTITY	
FEMALES					SG1 (Sept. 04, 2008)	SG2 (Sept. 05, 2008)
1	3 Days	Phenobarbital	80 mg/kg/day	15	ST1F3039 to 3047	ST1F3048 to 3053
2	3 Days	Control	0	15	ST2F3054 to 3059	ST2F3060 to 3068
3	3 Days	TERTIARY BUTANOL	2 mg/mL	15	ST3F3069 to 3077	ST3F3078 to 3083
4	3 Days		20 mg/mL	15	ST4F3084 to 3089	ST4F3090 to 3098
FEMALES					SG1 (Sept. 03, 2008)	SG2 (Sept. 04, 2008)
1	14 Days	Phenobarbital	80 mg/kg/day	15	ST1F3099 to 3107	ST1F3108 to 3113
2	14 Days	Control	0	15	ST2F3114 to 3119	ST2F3120 to 3128
3	14 Days	TERTIARY BUTANOL	2 mg/mL	15	ST3F3129 to 3137	ST3F3138 to 3143
4	14 Days		20 mg/mL	15	ST4F3144 to 3149	ST4F3150 to 3158

Note: Due to the premature death of the animal ST4F3098, which was a part of the pool 4FE (Tertiary butanol 20 mg/ml, 3 days of treatment), the livers of the two remaining animals were included in the pools 4FC and 4FD of the same treatment group. For that reason, the Group 4 (3 days of treatment) was composed of four pools instead of the five initially scheduled. Due to the unexpected results obtained for the pools 1FE and 4FD (maybe inverted during the microsomal preparations process) these two samples were not included in the mean calculations.

Study SA 08160
EROD
(pmol/min/mg prot.)

GROUP	DOSE LEVEL		FEMALE
1 (3 days)	Phenobarbital 80 mg/kg/day	N	4
		MEAN	82.44
		STD	3.90
1 (14 days)		N	5
		MEAN	102.34
		STD	15.50
2 (3 days)	0	N	5
		MEAN	66.16
		STD	6.90
2 (14 days)		N	5
		MEAN	70.15
		STD	4.92
3 (3 days)	Tertiary Butanol 2 mg/ml	N	5
		MEAN	66.38
		STD	6.49
3 (14 days)		N	5
		MEAN	77.18
		STD	9.75
4 (3 days)	Tertiary Butanol 20 mg/ml	N	3
		MEAN	64.40
		STD	2.66
4 (14 days)		N	5
		MEAN	73.63
		STD	8.81

TABLE 14 - **MEAN PENTOXYRESORUFIN O-DEPENTYLATION IN RATS**

GROUP	DURATION OF EXPOSURE	TEST SUBSTANCE	DOSE LEVELS	NUMBER OF ANIMALS PER GROUP	ANIMAL IDENTITY	
FEMALES					SG1 (Sept. 04, 2008)	SG2 (Sept. 05, 2008)
1	3 Days	Phenobarbital	80 mg/kg/day	15	ST1F3039 to 3047	ST1F3048 to 3053
2	3 Days	Control	0	15	ST2F3054 to 3059	ST2F3060 to 3068
3	3 Days	TERTIARY BUTANOL	2 mg/mL	15	ST3F3069 to 3077	ST3F3078 to 3083
4	3 Days		20 mg/mL	15	ST4F3084 to 3089	ST4F3090 to 3098
FEMALES					SG1 (Sept. 03, 2008)	SG2 (Sept. 04, 2008)
1	14 Days	Phenobarbital	80 mg/kg/day	15	ST1F3099 to 3107	ST1F3108 to 3113
2	14 Days	Control	0	15	ST2F3114 to 3119	ST2F3120 to 3128
3	14 Days	TERTIARY BUTANOL	2 mg/mL	15	ST3F3129 to 3137	ST3F3138 to 3143
4	14 Days		20 mg/mL	15	ST4F3144 to 3149	ST4F3150 to 3158

Note: Due to the premature death of the animal ST4F3098, which was a part of the pool 4FE (Tertiary butanol 20 mg/ml, 3 days of treatment), the livers of the two remaining animals were included in the pools 4FC and 4FD of the same treatment group. For that reason, the Group 4 (3 days of treatment) was composed of four pools instead of the five initially scheduled. Due to the unexpected results obtained for the pools 1FE and 4FD (maybe inverted during the microsomal preparations process) these two samples were not included in the mean calculations.

Study SA 08160
PROD
(pmol/min/mg prot.)

GROUP	DOSE LEVEL		FEMALE
1 (3 days)	Phenobarbita l 80 mg/kg/day	N	4
		MEAN	66.46
		STD	10.00
1 (14 days)		N	5
		MEAN	72.37
		STD	19.99
2 (3 days)	0	N	5
		MEAN	8.54
		STD	0.46
2 (14 days)		N	5
		MEAN	8.94
		STD	1.65
3 (3 days)	Tertiary Butanol 2 mg/ml	N	5
		MEAN	8.16
		STD	0.78
3 (14 days)		N	5
		MEAN	9.84
		STD	1.55
4 (3 days)	Tertiary Butanol 20 mg/ml	N	3
		MEAN	8.15
		STD	1.69
4 (14 days)		N	5
		MEAN	18.69
		STD	5.30

TABLE 15 - **MEAN BENZOXYRESORUFIN O-DEBENZYLATION IN RATS**

GROUP	DURATION OF EXPOSURE	TEST SUBSTANCE	DOSE LEVELS	NUMBER OF ANIMALS PER GROUP	ANIMAL IDENTITY	
FEMALES					SG1 (Sept. 04, 2008)	SG2 (Sept. 05, 2008)
1	3 Days	Phenobarbital	80 mg/kg/day	15	ST1F3039 to 3047	ST1F3048 to 3053
2	3 Days	Control	0	15	ST2F3054 to 3059	ST2F3060 to 3068
3	3 Days	TERTIARY BUTANOL	2 mg/mL	15	ST3F3069 to 3077	ST3F3078 to 3083
4	3 Days		20 mg/mL	15	ST4F3084 to 3089	ST4F3090 to 3098
FEMALES					SG1 (Sept. 03, 2008)	SG2 (Sept. 04, 2008)
1	14 Days	Phenobarbital	80 mg/kg/day	15	ST1F3099 to 3107	ST1F3108 to 3113
2	14 Days	Control	0	15	ST2F3114 to 3119	ST2F3120 to 3128
3	14 Days	TERTIARY BUTANOL	2 mg/mL	15	ST3F3129 to 3137	ST3F3138 to 3143
4	14 Days		20 mg/mL	15	ST4F3144 to 3149	ST4F3150 to 3158

Note: Due to the premature death of the animal ST4F3098, which was a part of the pool 4FE (Tertiary butanol 20 mg/ml, 3 days of treatment), the livers of the two remaining animals were included in the pools 4FC and 4FD of the same treatment group. For that reason, the Group 4 (3 days of treatment) was composed of four pools instead of the five initially scheduled. Due to the unexpected results obtained for the pools 1FE and 4FD (maybe inverted during the microsomal preparations process) these two samples were not included in the mean calculations.

Study SA 08160
BROD
(pmol/min/mg prot.)

GROUP	DOSE LEVEL		FEMALE
1 (3 days)	Phenobarbital 80 mg/kg/day	N	4
		MEAN	1071.96
		STD	84.28
1 (14 days)		N	5
		MEAN	1343.83
		STD	193.14
2 (3 days)	0	N	5
		MEAN	15.15
		STD	5.38
2 (14 days)		N	5
		MEAN	18.73
		STD	1.60
3 (3 days)	Tertiary Butanol 2 mg/ml	N	5
		MEAN	16.29
		STD	4.12
3 (14 days)		N	5
		MEAN	31.01
		STD	8.82
4 (3 days)	Tertiary Butanol 20 mg/ml	N	3
		MEAN	23.41
		STD	13.81
4 (14 days)		N	5
		MEAN	230.17
		STD	135.26

TABLE 16 - LAURIC ACID HYDROXYLATION IN RATS

GROUP	DURATION OF EXPOSURE	TEST SUBSTANCE	DOSE LEVELS	NUMBER OF ANIMALS PER GROUP	ANIMAL IDENTITY	
FEMALES					SG1 (Sept. 04, 2008)	SG2 (Sept. 05, 2008)
1	3 Days	Phenobarbital	80 mg/kg/day	15	ST1F3039 to 3047	ST1F3048 to 3053
2	3 Days	Control	0	15	ST2F3054 to 3059	ST2F3060 to 3068
3	3 Days	TERTIARY BUTANOL	2 mg/mL	15	ST3F3069 to 3077	ST3F3078 to 3083
4	3 Days		20 mg/mL	15	ST4F3084 to 3089	ST4F3090 to 3098
FEMALES					SG1 (Sept. 03, 2008)	SG2 (Sept. 04, 2008)
1	14 Days	Phenobarbital	80 mg/kg/day	15	ST1F3099 to 3107	ST1F3108 to 3113
2	14 Days	Control	0	15	ST2F3114 to 3119	ST2F3120 to 3128
3	14 Days	TERTIARY BUTANOL	2 mg/mL	15	ST3F3129 to 3137	ST3F3138 to 3143
4	14 Days		20 mg/mL	15	ST4F3144 to 3149	ST4F3150 to 3158

Note: Due to the premature death of the animal ST4F3098, which was a part of the pool 4FE (Tertiary butanol 20 mg/ml, 3 days of treatment), the livers of the two remaining animals were included in the pools 4FC and 4FD of the same treatment group. For that reason, the Group 4 (3 days of treatment) was composed of four pools instead of the five initially scheduled. Due to the unexpected results obtained for the pools 1FE and 4FD (maybe inverted during the microsomal preparations process) these two samples were not included in the mean calculations.

Study SA 08160
LAH
(nmol/min/mg prot.)

GROUP	DOSE LEVEL	FEMALE
1 (3 days)	Phenobarbital 80 mg/kg/day	0.86
1 (14 days)		0.77
2 (3 days)	0	1.00
2 (14 days)		1.14
3 (3 days)	Tertiary Butanol 2 mg/ml	0.96
3 (14 days)		1.14
4 (3 days)	Tertiary Butanol 20 mg/ml	1.11
4 (14 days)		1.34

TABLE 17 - **MEAN OF THE RELATIVE QUANTITIES OF THE GENE TRANSCRIPTS ANALYZED BY QUANTITATIVE PCR**

Tab 17a **Mean of the relative quantities of the gene transcripts analyzed by quantitative PCR - 3 Days**

Tab 17b **Mean of the relative quantities of the gene transcripts analyzed by quantitative PCR - 14 Days**

Tab 17a **Mean of the relative quantities of the gene transcripts analyzed by quantitative PCR - 3 Days**

GROUP	DURATION OF EXPOSURE	TEST SUBSTANCE	DOSE LEVELS	NUMBER OF ANIMALS PER GROUP	ANIMAL IDENTITY	
FEMALES					SG1 (Sept. 04, 2008)	SG2 (Sept. 05, 2008)
1	3 Days	Phenobarbital	80 mg/kg/day	15	ST1F3039 to 3047	ST1F3048 to 3053
2	3 Days	Control	0	15	ST2F3054 to 3059	ST2F3060 to 3068
3	3 Days	TERTIARY BUTANOL	2 mg/mL	15	ST3F3069 to 3077	ST3F3078 to 3083
4	3 Days		20 mg/mL	15	ST4F3084 to 3089	ST4F3090 to 3098
FEMALES					SG1 (Sept. 03, 2008)	SG2 (Sept. 04, 2008)
1	14 Days	Phenobarbital	80 mg/kg/day	15	ST1F3099 to 3107	ST1F3108 to 3113
2	14 Days	Control	0	15	ST2F3114 to 3119	ST2F3120 to 3128
3	14 Days	TERTIARY BUTANOL	2 mg/mL	15	ST3F3129 to 3137	ST3F3138 to 3143
4	14 Days		20 mg/mL	15	ST4F3144 to 3149	ST4F3150 to 3158

Notes:

- The missing value corresponds to the animal ST4F3098 that died on Study Day 3 without any significant macroscopic finding. This death was considered not to be treatment-related.
- Data given are the individual data + group mean and standard deviation.

Duration of exposure: 3 Days

Animal number*	Cyp1a1	Cyp2b9	Cyp2b10	Cyp3a11	Sult1a1	Sult2a2	Sultn	Ugt1a1	Ugt2b1	Ugt2b5
1F3039	0.476	1.410	22.560	2.956	1.127	6.209	1.334	2.039	1.236	0.994
1F3040	0 500	1.447	17.779	2.051	1 183	7.580	1.383	2.236	1.170	0.835
1F3043	0.701	1.535	20 255	2.989	1 560	8.722	1.738	2.268	1.228	0.781
1F3045	0.381	1.209	15.907	2.008	1.502	5.538	1.655	1.956	1.464	0.888
1F3046	0.828	1.555	31.104	2.799	2.017	12.589	2.171	2.943	1.331	0.948
1F3047	0.682	1.693	11.751	2.487	1.449	8.189	1.433	2.140	1.238	0.843
1F3049	0.647	1.553	17.567	2.204	1.512	5.690	1.535	2.570	1.046	0.917
1F3050	0.424	1.515	17.397	1.862	1.548	3.479	1.274	2.156	1.115	0.903
1F3051	0.696	1.336	17.752	2.427	1.403	5.754	1.666	2.281	1.017	0.814
1F3053	0 654	1.595	21.242	3.110	1.296	3.700	1.347	2.901	1.642	1.292
Mean	**0.599**	**1.485**	**19.331**	**2.489**	**1.460**	**6.745**	**1.554**	**2.349**	**1.249**	**0.921**
Std	**0.144**	**0.139**	**5.104**	**0.453**	**0.247**	**2.680**	**0.269**	**0.343**	**0.191**	**0.145**
2F3055	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
2F3057	0 904	2 023	1.035	0.806	1.096	3 317	0 948	1.195	0.549	0.643
2F3058	0 920	1.244	0.786	0 920	1.134	1.883	0 842	0.923	0.787	0.682
2F3059	1.175	1.281	0.938	0.493	1.064	1.445	1.101	1.132	0.707	0.732
2F3060	1.139	1.710	1.169	0.786	1.205	3.764	0.871	0.888	0.755	0.765
2F3063	0 723	1.225	1.935	0.887	0.957	2.202	1 000	1.299	0.495	0.720
2F3064	1 112	1.387	0.761	1 325	1.007	0.508	1 030	1.239	0 637	0.958
2F3065	0 788	1 465	0.487	0.827	0 915	1.437	0 991	1.136	0.593	0.816
2F3066	0.913	1.282	0.317	0.764	0.699	0.534	0.729	1.290	0.635	0.976
2F3067	0.801	1 897	0.725	0 858	0 943	0.998	0.708	1.058	0.665	0.698
Mean	**0.948**	**1.451**	**0.915**	**0.867**	**1.002**	**1.709**	**0.922**	**1.116**	**0.682**	**0.799**
Std	**0.156**	**0.325**	**0.440**	**0.209**	**0.140**	**1.108**	**0.131**	**0.146**	**0.143**	**0.132**
3F3069	1.073	1.561	0.929	1.247	0.984	2.391	0.646	1.114	0.584	0.690
3F3071	0 773	1.524	0.618	0.967	0.914	1.137	0.710	1.315	0.767	0.805
3F3072	0 854	1.464	1.184	0.704	1.175	2.840	1 243	1.182	0.774	0.907
3F3073	1.854	1.886	1.302	1.123	1.232	4 218	1.081	1.317	0.708	0.816
3F3074	1 142	1.731	1.514	0.830	1.199	3.963	1 039	1.283	0.553	0.689
3F3077	0 802	1.304	0.776	0 578	1.142	2 768	0 955	1.087	0.662	0.806
3F3078	0 800	1.174	0.011	0.565	0.949	4.504	0 825	1.166	0.525	0.635
3F3079	0.647	1.059	0.885	0.454	1 104	2.610	0.922	1.331	0.736	0.893
3F3081	1.051	1.273	1.180	0.617	1.014	1.476	0.857	1.254	0.635	0.868
3F3083	0 802	1.501	1.165	1.105	0.977	1 509	1 020	1 133	0.622	0.791
Mean	**0.980**	**1.448**	**0.956**	**0.819**	**1.069**	**2.742**	**0.930**	**1.218**	**0.657**	**0.790**
Std	**0.345**	**0.252**	**0.425**	**0.277**	**0.115**	**1.185**	**0.178**	**0.092**	**0.088**	**0.092**
4F3085	1 033	1 337	0 748	0 862	1.037	0.931	0 974	1.261	0.669	0.730
4F3086	0 512	1 223	0.956	0.761	0 930	2.042	0.841	1.096	0.581	0.744
4F3088	0 790	1.390	1.573	0.980	1 044	0.816	0.931	1.077	0.785	0.875
4F3089	0.781	1.612	1.356	0.398	1.072	3.345	0.930	0.905	0.384	0.513
4F3091	0.790	0.761	0.749	0.818	0.862	0.013	0.723	0.920	0.672	0.676
4F3092	1 136	1 637	1.111	1.070	1 059	3 241	0 894	1.135	0.678	0.719
4F3093	0 741	1.315	0.877	1.102	0 822	1.008	0.636	1.064	0.698	0.871
4F3095	1.049	1.740	1.509	1.130	1.055	3 478	0 886	1.257	0.543	0.810
4F3096	1 051	1.697	1.003	1.118	0 687	0 900	0 614	1.084	0.547	0.758
4F3097	1 171	1.565	1.058	0.981	0.905	2.161	0 895	1.112	0.676	0.932
Mean	**0.906**	**1.428**	**1.094**	**0.922**	**0.947**	**1.793**	**0.832**	**1.091**	**0.623**	**0.763**
Std	**0.212**	**0.293**	**0.295**	**0.226**	**0.129**	**1.239**	**0.128**	**0.117**	**0.112**	**0.119**

* The prefixe ST (year 2008) is missing

Tab 17b **Mean of the relative quantities of the gene transcripts analyzed by quantitative PCR - 14 Days**

GROUP	DURATION OF EXPOSURE	TEST SUBSTANCE	DOSE LEVELS	NUMBER OF ANIMALS PER GROUP	ANIMAL IDENTITY	
FEMALES					SG1 (Sept. 04, 2008)	SG2 (Sept. 05, 2008)
1	3 Days	Phenobarbital	80 mg/kg/day	15	ST1F3039 to 3047	ST1F3048 to 3053
2	3 Days	Control	0	15	ST2F3054 to 3059	ST2F3060 to 3068
3	3 Days	TERTIARY BUTANOL	2 mg/mL	15	ST3F3069 to 3077	ST3F3078 to 3083
4	3 Days		20 mg/mL	15	ST4F3084 to 3089	ST4F3090 to 3098
FEMALES					SG1 (Sept. 03, 2008)	SG2 (Sept. 04, 2008)
1	14 Days	Phenobarbital	80 mg/kg/day	15	ST1F3099 to 3107	ST1F3108 to 3113
2	14 Days	Control	0	15	ST2F3114 to 3119	ST2F3120 to 3128
3	14 Days	TERTIARY BUTANOL	2 mg/mL	15	ST3F3129 to 3137	ST3F3138 to 3143
4	14 Days		20 mg/mL	15	ST4F3144 to 3149	ST4F3150 to 3158

Note: Data given are the individual data + group mean and standard deviation.

Duration of exposure: 14 Days										
Animal number*	Cyp1a1	Cyp2b9	Cyp2b10	Cyp3a11	Sult1a1	Sult2a2	Sultn	Ugt1a1	Ugt2b1	Ugt2b5
1F3100	0 545	0 993	32 620	1.697	1 438	5 301	1 472	1 378	1 276	0 996
1F3101	0 445	1 072	38 051	1.746	1 552	9 471	1 898	1 512	1 182	0 963
1F3103	0.454	0.868	18 079	1.488	1 588	5 250	1 733	1 291	1 226	1 010
1F3104	0.507	1 046	25 457	1.727	1.611	11.072	1 555	1 476	1 093	0 954
1F3105	0 679	1 308	31 892	1.974	1 547	10.131	2 165	1 617	1.462	1 104
1F3107	0 424	1 396	32 753	1.764	1 820	10.411	2 333	1.530	1 008	0 827
1F3109	0 287	1.151	17 311	1.055	1 207	6 202	1 307	0.974	0 802	0 527
1F3110	0 356	1 298	12 397	1.415	1.363	4 214	1 641	1 501	1.239	0 647
1F3111	0 486	0 877	10.648	1.319	1.383	5 047	1.345	1 554	1.119	0 793
1F3112	0 640	1 128	26 719	1.521	1.606	10.891	1 369	1 460	1.339	0.905
Mean	**0.482**	**1.114**	**24.593**	**1.571**	**1.512**	**7.799**	**1.682**	**1.429**	**1.175**	**0.872**
Std	**0.119**	**0.180**	**9.483**	**0.265**	**0.170**	**2.810**	**0.353**	**0.184**	**0.183**	**0.177**
2F3114	1 000	1 000	1 000	1.000	1 000	1.000	1 000	1 000	1 000	1 000
2F3116	0 613	1.002	0.783	0.605	1 090	1.201	0.889	0 873	0 920	0 747
2F3118	0 561	0 991	0 607	0.874	0 964	0 420	0 939	0 895	1 016	0 942
2F3119	0.661	0 917	0.848	1.078	1.011	0 626	0 824	0.741	1.026	0.917
2F3120	0 460	1 095	0 763	0.782	0 627	0 812	0 666	0 603	0 691	0 476
2F3121	0 698	1 144	0.971	0.439	1.054	1 367	0.894	0.832	0.785	0.573
2F3122	0 685	1 010	0 304	0.591	0 853	0 495	0.548	0 732	0.677	0 590
2F3123	0 674	0 988	1.051	0.743	0 913	1 224	1 135	0 743	1 041	0 786
2F3127	0 585	0 896	0 678	0.528	1 040	0 934	0 924	0 727	0 832	0 642
2F3128	0 483	0.795	0 450	0.726	1.012	0.346	0 766	0 679	1 126	0.777
Mean	**0.642**	**0.984**	**0.745**	**0.737**	**0.956**	**0.843**	**0.858**	**0.782**	**0.912**	**0.745**
Std	**0.150**	**0.098**	**0.242**	**0.205**	**0.135**	**0.382**	**0.168**	**0.117**	**0.157**	**0.174**
3F3129	0.826	0 883	0.767	0.744	1 028	0 834	0 829	0 766	1 128	0 772
3F3131	0 705	1 062	1 339	0.878	1 007	1 323	0 782	0 805	0 843	0 620
3F3132	0 805	0 894	1 109	0.871	0 990	0 260	0 689	0.648	1 094	0 680
3F3134	0 922	1 250	1 582	0.650	1.504	4 665	0 979	0 938	0.675	0 560
3F3135	0 702	0 963	1.401	0.658	1 086	1.109	0.957	0 823	0.750	0 714
3F3136	0 610	1 009	1 040	0.428	1 065	1.418	0 682	0 769	0 613	0.504
3F3138	0.576	0 911	1.173	0.824	1 102	0 205	1.007	0 788	1.015	0.852
3F3140	0 522	1 200	1 666	0.759	1 390	1 996	1 122	0 883	0 889	0 594
3F3141	0 814	0 975	1 620	0.886	1 215	1 441	0 853	0 787	0 903	0 604
3F3142	0 780	0 916	0 843	0.747	1 082	0 450	0 716	0 692	0 884	0 722
Mean	**0.726**	**1.006**	**1.254**	**0.745**	**1.147**	**1.370**	**0.862**	**0.790**	**0.879**	**0.662**
Std	**0.126**	**0.128**	**0.320**	**0.140**	**0.172**	**1.293**	**0.150**	**0.083**	**0.169**	**0.106**
4F3144	0 637	1 189	49 415	1.286	1.345	2 940	1 292	0.915	1 119	0.780
4F3145	0 818	1 222	41 009	0.929	1 561	2 709	1.288	0 967	0 956	0 730
4F3146	0 611	1 206	29 869	0 840	1 218	0.842	0 799	0 799	0.676	0 569
4F3148	0 824	0 975	1.180	0.745	0.936	0.568	0.850	0.736	0.842	0.751
4F3151	0 633	1 301	22 780	1.120	1 291	3 306	1 109	0 997	1 028	0.819
4F3152	0 395	1.217	1 278	0.689	1.056	1.593	0 731	0.766	0 797	0.647
4F3153	0 447	1 172	1.346	0.775	1 145	0.597	0 856	0 778	0 855	0 588
4F3155	0.383	1 117	13.758	0.824	1.481	1 950	0.692	0 795	0.629	0 655
4F3157	0 432	1 526	1 049	0.383	1 211	1 813	0 837	0 839	0 633	0 516
4F3158	0 973	1 000	1.121	0.826	0 963	0 880	0 854	0.840	0 678	0 616
Mean	**0.615**	**1.193**	**16.280**	**0.842**	**1.221**	**1.720**	**0.931**	**0.843**	**0.821**	**0.667**
Std	**0.205**	**0.155**	**18.501**	**0.243**	**0.207**	**1.007**	**0.219**	**0.088**	**0.172**	**0.099**

* The prefixe ST (year 2008) is missing

APPENDICES

APPENDIX A - **INDIVIDUAL CLINICAL SIGNS AND DEAD ANIMAL STATUS LIST**

App. A1 **Individual clinical signs**

App. A1a **3 Days**
App. A1b **14 Days**

App. A2 **Individual death status**

App. A2a **3 Days**
App. A2b **14 Days**

App. A1a **Individual clinical signs - 3 Days**

GROUP	DURATION OF EXPOSURE	TEST SUBSTANCE	DOSE LEVELS	NUMBER OF ANIMALS PER GROUP	ANIMAL IDENTITY	
FEMALES					SG1 (Sept. 04, 2008)	SG2 (Sept. 05, 2008)
1	3 Days	Phenobarbital	80 mg/kg/day	15	ST1F3039 to 3047	ST1F3048 to 3053
2	3 Days	Control	0	15	ST2F3054 to 3059	ST2F3060 to 3068
3	3 Days	TERTIARY BUTANOL	2 mg/mL	15	ST3F3069 to 3077	ST3F3078 to 3083
4	3 Days		20 mg/mL	15	ST4F3084 to 3089	ST4F3090 to 3098
FEMALES					SG1 (Sept. 03, 2008)	SG2 (Sept. 04, 2008)
1	14 Days	Phenobarbital	80 mg/kg/day	15	ST1F3099 to 3107	ST1F3108 to 3113
2	14 Days	Control	0	15	ST2F3114 to 3119	ST2F3120 to 3128
3	14 Days	TERTIARY BUTANOL	2 mg/mL	15	ST3F3129 to 3137	ST3F3138 to 3143
4	14 Days		20 mg/mL	15	ST4F3144 to 3149	ST4F3150 to 3158

INDIVIDUAL CLINICAL SIGNS TABLE
Study number: SA 08160
DATES 04-Sep-08 TO 08-Sep-08
Study start date: 04-Sep-08

Mechanistic study/Exploratory study

DOSAGE LEVEL IN: mg/kg

ANIMAL		OBSERVATION	DAYS OBSERVED
ST1F3039	80.0	Movement/Behavior, uncoordinated movements	1, 2, 3
ST1F3040	80.0	Movement/Behavior, uncoordinated movements	4
ST1F3041	80.0	Movement/Behavior, uncoordinated movements	4
ST1F3042	80.0	Movement/Behavior, uncoordinated movements	4
ST1F3043	80.0	Movement/Behavior, uncoordinated movements	2, 3
ST1F3044	80.0	Movement/Behavior, uncoordinated movements	4
ST1F3045	80.0	Movement/Behavior, uncoordinated movements	1, 2, 3, 4
ST1F3046	80.0	Movement/Behavior, uncoordinated movements	1, 2, 4
ST1F3047	80.0	Movement/Behavior, uncoordinated movements	1, 2
ST1F3048	80.0	Movement/Behavior, uncoordinated movements	1, 4
ST1F3049	80.0	Movement/Behavior, uncoordinated movements	3, 4
ST1F3050	80.0	Movement/Behavior, uncoordinated movements	3, 4
ST1F3051	80.0	Movement/Behavior, uncoordinated movements	3, 4
ST1F3052	80.0	Movement/Behavior, uncoordinated movements	3, 4
ST1F3053	80.0	Movement/Behavior, uncoordinated movements	3, 4
ST2F3054	0.0	NORMAL THROUGHOUT INTERVAL	
ST2F3055	0.0	NORMAL THROUGHOUT INTERVAL	
ST2F3056	0.0	NORMAL THROUGHOUT INTERVAL	
ST2F3057	0.0	Hair/Skin, hair loss, forelimb,left	4
ST2F3058	0.0	NORMAL THROUGHOUT INTERVAL	
ST2F3059	0.0	NORMAL THROUGHOUT INTERVAL	
ST2F3060	0.0	NORMAL THROUGHOUT INTERVAL	
ST2F3061	0.0	NORMAL THROUGHOUT INTERVAL	

DOSAGE LEVEL IN: mg/kg

ANIMAL		OBSERVATION	DAYS OBSERVED
ST2F3062	0.0	NORMAL THROUGHOUT INTERVAL	
ST2F3063	0.0	NORMAL THROUGHOUT INTERVAL	
ST2F3064	0.0	NORMAL THROUGHOUT INTERVAL	
ST2F3065	0.0	NORMAL THROUGHOUT INTERVAL	
ST2F3066	0.0	NORMAL THROUGHOUT INTERVAL	
ST2F3067	0.0	NORMAL THROUGHOUT INTERVAL	
ST2F3068	0.0	NORMAL THROUGHOUT INTERVAL	
ST3F3069	0.0	NORMAL THROUGHOUT INTERVAL	
ST3F3070	0.0	NORMAL THROUGHOUT INTERVAL	
ST3F3071	0.0	NORMAL THROUGHOUT INTERVAL	
ST3F3072	0.0	NORMAL THROUGHOUT INTERVAL	
ST3F3073	0.0	NORMAL THROUGHOUT INTERVAL	
ST3F3074	0.0	NORMAL THROUGHOUT INTERVAL	
ST3F3075	0.0	NORMAL THROUGHOUT INTERVAL	
ST3F3076	0.0	NORMAL THROUGHOUT INTERVAL	
ST3F3077	0.0	NORMAL THROUGHOUT INTERVAL	
ST3F3078	0.0	NORMAL THROUGHOUT INTERVAL	
ST3F3079	0.0	NORMAL THROUGHOUT INTERVAL	
ST3F3080	0.0	NORMAL THROUGHOUT INTERVAL	
ST3F3081	0.0	NORMAL THROUGHOUT INTERVAL	
ST3F3082	0.0	NORMAL THROUGHOUT INTERVAL	
ST3F3083	0.0	NORMAL THROUGHOUT INTERVAL	
ST4F3084	0.0	NORMAL THROUGHOUT INTERVAL	

DOSAGE LEVEL IN: mg/kg

ANIMAL		OBSERVATION	DAYS OBSERVED
ST4F3085	0.0	NORMAL THROUGHOUT INTERVAL	
ST4F3086	0.0	NORMAL THROUGHOUT INTERVAL	
ST4F3087	0.0	NORMAL THROUGHOUT INTERVAL	
ST4F3088	0.0	NORMAL THROUGHOUT INTERVAL	
ST4F3089	0.0	NORMAL THROUGHOUT INTERVAL	
ST4F3090	0.0	NORMAL THROUGHOUT INTERVAL	
ST4F3091	0.0	NORMAL THROUGHOUT INTERVAL	
ST4F3092	0.0	NORMAL THROUGHOUT INTERVAL	
ST4F3093	0.0	NORMAL THROUGHOUT INTERVAL	
ST4F3094	0.0	NORMAL THROUGHOUT INTERVAL	
ST4F3095	0.0	NORMAL THROUGHOUT INTERVAL	
ST4F3096	0.0	NORMAL THROUGHOUT INTERVAL	
ST4F3097	0.0	NORMAL THROUGHOUT INTERVAL	
ST4F3098	0.0	NORMAL THROUGHOUT INTERVAL	

NOTE: DATA FOR Dosing phase 1

App. A1b **Individual clinical signs - 14 Days**

GROUP	DURATION OF EXPOSURE	TEST SUBSTANCE	DOSE LEVELS	NUMBER OF ANIMALS PER GROUP	ANIMAL IDENTITY	
FEMALES					SG1 (Sept. 04, 2008)	SG2 (Sept. 05, 2008)
1	3 Days	Phenobarbital	80 mg/kg/day	15	ST1F3039 to 3047	ST1F3048 to 3053
2	3 Days	Control	0	15	ST2F3054 to 3059	ST2F3060 to 3068
3	3 Days	TERTIARY BUTANOL	2 mg/mL	15	ST3F3069 to 3077	ST3F3078 to 3083
4	3 Days		20 mg/mL	15	ST4F3084 to 3089	ST4F3090 to 3098
FEMALES					SG1 (Sept. 03, 2008)	SG2 (Sept. 04, 2008)
1	14 Days	Phenobarbital	80 mg/kg/day	15	ST1F3099 to 3107	ST1F3108 to 3113
2	14 Days	Control	0	15	ST2F3114 to 3119	ST2F3120 to 3128
3	14 Days	TERTIARY BUTANOL	2 mg/mL	15	ST3F3129 to 3137	ST3F3138 to 3143
4	14 Days		20 mg/mL	15	ST4F3144 to 3149	ST4F3150 to 3158

DOSAGE LEVEL IN: mg/kg

ANIMAL		OBSERVATION	DAYS OBSERVED
ST1F3099	80.0	Movement/Behavior, uncoordinated movements	3, 4, 5, 6, 7, 10-12, 13-15
ST1F3100	80.0	Movement/Behavior, uncoordinated movements	3, 6, 7, 10-12, 13-15
ST1F3101	80.0	Movement/Behavior, uncoordinated movements	3, 4, 5, 6, 7, 10-12, 13-15
ST1F3102	80.0	Movement/Behavior, uncoordinated movements	3, 4, 5, 6, 7, 10-12, 13-15
ST1F3103	80.0	Movement/Behavior, uncoordinated movements	3, 4, 6, 7, 10-12, 13-15
ST1F3104	80.0	Movement/Behavior, uncoordinated movements	5, 6, 7, 10-12, 13-15
		Movement/Behavior, uncoordinated movements, ---	4
ST1F3105	80.0	Movement/Behavior, uncoordinated movements	5, 6, 7, 10-12, 13-15
ST1F3106	80.0	Movement/Behavior, uncoordinated movements	6, 7, 10-12, 13-15
ST1F3107	80.0	Movement/Behavior, uncoordinated movements	3, 5, 6, 7, 10-12, 13-15
ST1F3108	80.0	Movement/Behavior, uncoordinated movements	4, 5, 6, 7, 9-11, 12-14, 15
ST1F3109	80.0	Movement/Behavior, uncoordinated movements	4, 5, 6, 7, 9-11, 12-14, 15
		Movement/Behavior, uncoordinated movements, ---	3
ST1F3110	80.0	Movement/Behavior, uncoordinated movements	2, 4, 5, 6, 7, 9-11, 12-14, 15
ST1F3111	80.0	Movement/Behavior, uncoordinated movements	2, 4, 5, 6, 7, 9-11, 12-14, 15
ST1F3112	80.0	Movement/Behavior, uncoordinated movements	4, 5, 6, 7, 9-11, 12-14, 15
		Movement/Behavior, uncoordinated movements, ---	3
ST1F3113	80.0	Movement/Behavior, uncoordinated movements	2, 3, 4, 5, 6, 7, 9-11, 12-14, 15
ST2F3114	0.0	NORMAL THROUGHOUT INTERVAL	
ST2F3115	0.0	NORMAL THROUGHOUT INTERVAL	
ST2F3116	0.0	NORMAL THROUGHOUT INTERVAL	
ST2F3117	0.0	NORMAL THROUGHOUT INTERVAL	
ST2F3118	0.0	NORMAL THROUGHOUT INTERVAL	
ST2F3119	0.0	NORMAL THROUGHOUT INTERVAL	

DOSAGE LEVEL IN: mg/kg

ANIMAL		OBSERVATION	DAYS OBSERVED
ST2F3120	0.0	NORMAL THROUGHOUT INTERVAL	
ST2F3121	0.0	NORMAL THROUGHOUT INTERVAL	
ST2F3122	0.0	NORMAL THROUGHOUT INTERVAL	
ST2F3123	0.0	NORMAL THROUGHOUT INTERVAL	
ST2F3124	0.0	NORMAL THROUGHOUT INTERVAL	
ST2F3125	0.0	NORMAL THROUGHOUT INTERVAL	
ST2F3126	0.0	NORMAL THROUGHOUT INTERVAL	
ST2F3127	0.0	NORMAL THROUGHOUT INTERVAL	
ST2F3128	0.0	NORMAL THROUGHOUT INTERVAL	
ST3F3129	0.0	NORMAL THROUGHOUT INTERVAL	
ST3F3130	0.0	NORMAL THROUGHOUT INTERVAL	
ST3F3131	0.0	NORMAL THROUGHOUT INTERVAL	
ST3F3132	0.0	NORMAL THROUGHOUT INTERVAL	
ST3F3133	0.0	NORMAL THROUGHOUT INTERVAL	
ST3F3134	0.0	NORMAL THROUGHOUT INTERVAL	
ST3F3135	0.0	Ears, damaged ear, ear,right	10-15
ST3F3136	0.0	NORMAL THROUGHOUT INTERVAL	
ST3F3137	0.0	NORMAL THROUGHOUT INTERVAL	
ST3F3138	0.0	NORMAL THROUGHOUT INTERVAL	
ST3F3139	0.0	NORMAL THROUGHOUT INTERVAL	
ST3F3140	0.0	NORMAL THROUGHOUT INTERVAL	
ST3F3141	0.0	NORMAL THROUGHOUT INTERVAL	
ST3F3142	0.0	NORMAL THROUGHOUT INTERVAL	

DOSAGE LEVEL IN: mg/kg

ANIMAL		OBSERVATION	DAYS OBSERVED
ST3F3143	0.0	NORMAL THROUGHOUT INTERVAL	
ST4F3144	0.0	NORMAL THROUGHOUT INTERVAL	
ST4F3145	0.0	NORMAL THROUGHOUT INTERVAL	
ST4F3146	0.0	NORMAL THROUGHOUT INTERVAL	
ST4F3147	0.0	NORMAL THROUGHOUT INTERVAL	
ST4F3148	0.0	NORMAL THROUGHOUT INTERVAL	
ST4F3149	0.0	NORMAL THROUGHOUT INTERVAL	
ST4F3150	0.0	NORMAL THROUGHOUT INTERVAL	
ST4F3151	0.0	NORMAL THROUGHOUT INTERVAL	
ST4F3152	0.0	NORMAL THROUGHOUT INTERVAL	
ST4F3153	0.0	NORMAL THROUGHOUT INTERVAL	
ST4F3154	0.0	NORMAL THROUGHOUT INTERVAL	
ST4F3155	0.0	NORMAL THROUGHOUT INTERVAL	
ST4F3156	0.0	NORMAL THROUGHOUT INTERVAL	
ST4F3157	0.0	NORMAL THROUGHOUT INTERVAL	
ST4F3158	0.0	NORMAL THROUGHOUT INTERVAL	

NOTE: DATA FOR Dosing phase 1

App. A2a **Individual death status - 3 Days**

GROUP	DURATION OF EXPOSURE	TEST SUBSTANCE	DOSE LEVELS	NUMBER OF ANIMALS PER GROUP	ANIMAL IDENTITY	
FEMALES					SG1 (Sept. 04, 2008)	SG2 (Sept. 05, 2008)
1	3 Days	Phenobarbital	80 mg/kg/day	15	ST1F3039 to 3047	ST1F3048 to 3053
2	3 Days	Control	0	15	ST2F3054 to 3059	ST2F3060 to 3068
3	3 Days	TERTIARY BUTANOL	2 mg/mL	15	ST3F3069 to 3077	ST3F3078 to 3083
4	3 Days		20 mg/mL	15	ST4F3084 to 3089	ST4F3090 to 3098
FEMALES					SG1 (Sept. 03, 2008)	SG2 (Sept. 04, 2008)
1	14 Days	Phenobarbital	80 mg/kg/day	15	ST1F3099 to 3107	ST1F3108 to 3113
2	14 Days	Control	0	15	ST2F3114 to 3119	ST2F3120 to 3128
3	14 Days	TERTIARY BUTANOL	2 mg/mL	15	ST3F3129 to 3137	ST3F3138 to 3143
4	14 Days		20 mg/mL	15	ST4F3144 to 3149	ST4F3150 to 3158

Bayer CropScience
Center of Toxicology
Sophia-Antipolis
Mouse/B6C3Fl

Dead Animal Status List for All Animals
Study number: SA 08160
Study start date: 04-Sep-08

Printed: 19-Nov-08
Page: 1
Mechanistic study/Exploratory study

Animal Number	Grp	Sex	Study Phase	Date and Time Data was Entered	Oper. No.	Date of Death	Phase Day	Death Typ	Status	Term. Wt. (g)	Body Ow	Grs
ST1F3039	1	F	Dosing phase 1	08-Sep-08 07:24	116	08-Sep-08	5	s	Final phase sacrifice	21.7	C	C
ST1F3040	1	F	Dosing phase 1	08-Sep-08 07:25	116	08-Sep-08	5	s	Final phase sacrifice	21.8	C	C
ST1F3041	1	F	Dosing phase 1	08-Sep-08 07:25	116	08-Sep-08	5	s	Final phase sacrifice	21.2	C	C
ST1F3042	1	F	Dosing phase 1	08-Sep-08 07:26	116	08-Sep-08	5	s	Final phase sacrifice	23.2	C	C
ST1F3043	1	F	Dosing phase 1	08-Sep-08 07:27	116	08-Sep-08	5	s	Final phase sacrifice	21.8	C	C
ST1F3044	1	F	Dosing phase 1	08-Sep-08 07:28	116	08-Sep-08	5	s	Final phase sacrifice	22.7	C	C
ST1F3045	1	F	Dosing phase 1	08-Sep-08 07:28	116	08-Sep-08	5	s	Final phase sacrifice	21.8	C	C
ST1F3046	1	F	Dosing phase 1	08-Sep-08 07:29	116	08-Sep-08	5	s	Final phase sacrifice	19.4	C	C
ST1F3047	1	F	Dosing phase 1	08-Sep-08 07:32	116	08-Sep-08	5	s	Final phase sacrifice	21.2	C	C
ST1F3048	1	F	Dosing phase 1	09-Sep-08 07:48	81	09-Sep-08	5	s	Final phase sacrifice	23.2	C	C
ST1F3049	1	F	Dosing phase 1	09-Sep-08 07:49	81	09-Sep-08	5	s	Final phase sacrifice	21.4	C	C
ST1F3050	1	F	Dosing phase 1	09-Sep-08 07:49	81	09-Sep-08	5	s	Final phase sacrifice	22.9	C	C
ST1F3051	1	F	Dosing phase 1	09-Sep-08 07:50	81	09-Sep-08	5	s	Final phase sacrifice	21.7	C	C
ST1F3052	1	F	Dosing phase 1	09-Sep-08 07:50	81	09-Sep-08	5	s	Final phase sacrifice	23.0	C	C
ST1F3053	1	F	Dosing phase 1	09-Sep-08 07:50	81	09-Sep-08	5	s	Final phase sacrifice	21.4	C	C
ST2F3054	2	F	Dosing phase 1	08-Sep-08 07:33	116	08-Sep-08	5	s	Final phase sacrifice	22.8	C	C
ST2F3055	2	F	Dosing phase 1	08-Sep-08 07:34	116	08-Sep-08	5	s	Final phase sacrifice	23.3	C	C
ST2F3056	2	F	Dosing phase 1	08-Sep-08 07:34	116	08-Sep-08	5	s	Final phase sacrifice	21.1	C	C
ST2F3057	2	F	Dosing phase 1	08-Sep-08 07:35	116	08-Sep-08	5	s	Final phase sacrifice	22.2	C	C
ST2F3058	2	F	Dosing phase 1	08-Sep-08 07:36	116	08-Sep-08	5	s	Final phase sacrifice	24.4	C	C
ST2F3059	2	F	Dosing phase 1	08-Sep-08 07:36	116	08-Sep-08	5	s	Final phase sacrifice	22.0	C	C
ST2F3060	2	F	Dosing phase 1	09-Sep-08 07:51	81	09-Sep-08	5	s	Final phase sacrifice	24.4	C	C
ST2F3061	2	F	Dosing phase 1	09-Sep-08 07:51	81	09-Sep-08	5	s	Final phase sacrifice	23.0	C	C
ST2F3062	2	F	Dosing phase 1	09-Sep-08 07:51	81	09-Sep-08	5	s	Final phase sacrifice	22.5	C	C
ST2F3063	2	F	Dosing phase 1	09-Sep-08 07:52	81	09-Sep-08	5	s	Final phase sacrifice	19.4	C	C
ST2F3064	2	F	Dosing phase 1	09-Sep-08 07:52	81	09-Sep-08	5	s	Final phase sacrifice	20.9	C	C
ST2F3065	2	F	Dosing phase 1	09-Sep-08 07:53	81	09-Sep-08	5	s	Final phase sacrifice	21.6	C	C
ST2F3066	2	F	Dosing phase 1	09-Sep-08 08:07	81	09-Sep-08	5	s	Final phase sacrifice	21.7	C	C
ST2F3067	2	F	Dosing phase 1	09-Sep-08 07:55	81	09-Sep-08	5	s	Final phase sacrifice	22.7	C	C
ST2F3068	2	F	Dosing phase 1	09-Sep-08 07:55	81	09-Sep-08	5	s	Final phase sacrifice	21.1	C	C
ST3F3069	3	F	Dosing phase 1	08-Sep-08 07:37	116	08-Sep-08	5	s	Final phase sacrifice	22.0	C	C
ST3F3070	3	F	Dosing phase 1	08-Sep-08 07:38	116	08-Sep-08	5	s	Final phase sacrifice	23.7	C	C
ST3F3071	3	F	Dosing phase 1	08-Sep-08 07:38	116	08-Sep-08	5	s	Final phase sacrifice	22.6	C	C
ST3F3072	3	F	Dosing phase 1	08-Sep-08 07:39	116	08-Sep-08	5	s	Final phase sacrifice	22.3	C	C
ST3F3073	3	F	Dosing phase 1	08-Sep-08 07:40	116	08-Sep-08	5	s	Final phase sacrifice	23.5	C	C
ST3F3074	3	F	Dosing phase 1	08-Sep-08 07:40	116	08-Sep-08	5	s	Final phase sacrifice	20.7	C	C
ST3F3075	3	F	Dosing phase 1	08-Sep-08 07:41	116	08-Sep-08	5	s	Final phase sacrifice	21.0	C	C
ST3F3076	3	F	Dosing phase 1	08-Sep-08 07:42	116	08-Sep-08	5	s	Final phase sacrifice	21.8	C	C
ST3F3077	3	F	Dosing phase 1	08-Sep-08 07:43	116	08-Sep-08	5	s	Final phase sacrifice	23.7	C	C
ST3F3078	3	F	Dosing phase 1	09-Sep-08 07:56	81	09-Sep-08	5	s	Final phase sacrifice	22.7	C	C
ST3F3079	3	F	Dosing phase 1	09-Sep-08 07:56	81	09-Sep-08	5	s	Final phase sacrifice	21.2	C	C
ST3F3080	3	F	Dosing phase 1	09-Sep-08 07:56	81	09-Sep-08	5	s	Final phase sacrifice	21.9	C	C
ST3F3081	3	F	Dosing phase 1	09-Sep-08 07:57	81	09-Sep-08	5	s	Final phase sacrifice	21.4	C	C
ST3F3082	3	F	Dosing phase 1	09-Sep-08 07:57	81	09-Sep-08	5	s	Final phase sacrifice	23.1	C	C
ST3F3083	3	F	Dosing phase 1	09-Sep-08 07:58	81	09-Sep-08	5	s	Final phase sacrifice	20.8	C	C

Note: * = pretest animal no. P = partial data. C = complete data. - = no data.

Bayer CropScience
Center of Toxicology
Sophia-Antipolis
Mouse/B6C3F1

Dead Animal Status List for All Animals
Study number: SA 08160
Study start date: 04-Sep-08

Printed: 19-Nov-08
Page: 2
Mechanistic study/Exploratory study

Animal Number	Grp	Sex	Study Phase	Date and Time Data was Entered	Oper. No.	Date of Death	Phase Day	Death Typ	Status	Term. Wt. (g)	Body Ow	Body Grs
ST4F3084	4	F	Dosing phase 1	08-Sep-08 07:44	116	08-Sep-08	5	s	Final phase sacrifice	22.6	C	C
ST4F3085	4	F	Dosing phase 1	08-Sep-08 07:44	116	08-Sep-08	5	s	Final phase sacrifice	23.0	C	C
ST4F3086	4	F	Dosing phase 1	08-Sep-08 07:45	116	08-Sep-08	5	s	Final phase sacrifice	23.4	C	C
ST4F3087	4	F	Dosing phase 1	08-Sep-08 07:46	116	08-Sep-08	5	s	Final phase sacrifice	21.9	C	C
ST4F3088	4	F	Dosing phase 1	08-Sep-08 07:47	116	08-Sep-08	5	s	Final phase sacrifice	22.5	C	C
ST4F3089	4	F	Dosing phase 1	08-Sep-08 07:47	116	08-Sep-08	5	s	Final phase sacrifice	21.9	C	C
ST4F3090	4	F	Dosing phase 1	09-Sep-08 07:58	81	09-Sep-08	5	s	Final phase sacrifice	21.6	C	C
ST4F3091	4	F	Dosing phase 1	09-Sep-08 07:59	81	09-Sep-08	5	s	Final phase sacrifice	20.5	C	C
ST4F3092	4	F	Dosing phase 1	09-Sep-08 07:59	81	09-Sep-08	5	s	Final phase sacrifice	22.1	C	C
ST4F3093	4	F	Dosing phase 1	09-Sep-08 07:59	81	09-Sep-08	5	s	Final phase sacrifice	22.4	C	C
ST4F3094	4	F	Dosing phase 1	09-Sep-08 08:00	81	09-Sep-08	5	s	Final phase sacrifice	21.7	C	C
ST4F3095	4	F	Dosing phase 1	09-Sep-08 08:00	81	09-Sep-08	5	s	Final phase sacrifice	22.9	C	C
ST4F3096	4	F	Dosing phase 1	09-Sep-08 08:01	81	09-Sep-08	5	s	Final phase sacrifice	21.2	C	C
ST4F3097	4	F	Dosing phase 1	09-Sep-08 08:01	81	09-Sep-08	5	s	Final phase sacrifice	23.0	C	C
ST4F3098	4	F	Dosing phase 1	07-Sep-08 09:41	153	07-Sep-08	3	u	Found dead	-----	-	C

Note: * = pretest animal no. P = partial data. C = complete data. - = no data.

App. A2b **Individual death status - 14 Days**

GROUP	DURATION OF EXPOSURE	TEST SUBSTANCE	DOSE LEVELS	NUMBER OF ANIMALS PER GROUP	ANIMAL IDENTITY	
FEMALES					SG1 (Sept. 04, 2008)	SG2 (Sept. 05, 2008)
1	3 Days	Phenobarbital	80 mg/kg/day	15	ST1F3039 to 3047	ST1F3048 to 3053
2	3 Days	Control	0	15	ST2F3054 to 3059	ST2F3060 to 3068
3	3 Days	TERTIARY BUTANOL	2 mg/mL	15	ST3F3069 to 3077	ST3F3078 to 3083
4	3 Days		20 mg/mL	15	ST4F3084 to 3089	ST4F3090 to 3098
FEMALES					SG1 (Sept. 03, 2008)	SG2 (Sept. 04, 2008)
1	14 Days	Phenobarbital	80 mg/kg/day	15	ST1F3099 to 3107	ST1F3108 to 3113
2	14 Days	Control	0	15	ST2F3114 to 3119	ST2F3120 to 3128
3	14 Days	TERTIARY BUTANOL	2 mg/mL	15	ST3F3129 to 3137	ST3F3138 to 3143
4	14 Days		20 mg/mL	15	ST4F3144 to 3149	ST4F3150 to 3158

Bayer CropScience
Center of Toxicology
Sophia-Antipolis
Mouse/B6C3F1

Dead Animal Status List for All Animals
Study number: SA-08160
Study start date: 03-Sep-08

Printed: 27-Nov-08
Page: 1
Mechanistic study/Exploratory study

Animal Number	Grp	Sex	Study Phase	Date and Time Data was Entered	Oper. No.	Date of Death	Phase Day	Death Typ	Status	Term. Wt. (g)	Body Ow	Body Grs
ST1F3099	1	F	Dosing phase 1	18-Sep-08 07:49	116	18-Sep-08	16	s	Final phase sacrifice	23.1	C	C
ST1F3100	1	F	Dosing phase 1	18-Sep-08 07:48	116	18-Sep-08	16	s	Final phase sacrifice	22.2	C	C
ST1F3101	1	F	Dosing phase 1	18-Sep-08 07:43	116	18-Sep-08	16	s	Final phase sacrifice	20.0	C	C
ST1F3102	1	F	Dosing phase 1	18-Sep-08 07:53	116	18-Sep-08	16	s	Final phase sacrifice	21.8	C	C
ST1F3103	1	F	Dosing phase 1	18-Sep-08 07:53	116	18-Sep-08	16	s	Final phase sacrifice	21.2	C	C
ST1F3104	1	F	Dosing phase 1	18-Sep-08 07:48	116	18-Sep-08	16	s	Final phase sacrifice	19.6	C	C
ST1F3105	1	F	Dosing phase 1	18-Sep-08 07:52	116	18-Sep-08	16	s	Final phase sacrifice	22.0	C	C
ST1F3106	1	F	Dosing phase 1	18-Sep-08 07:43	116	18-Sep-08	16	s	Final phase sacrifice	22.1	C	C
ST1F3107	1	F	Dosing phase 1	18-Sep-08 07:42	116	18-Sep-08	16	s	Final phase sacrifice	20.5	C	C
ST1F3108	1	F	Dosing phase 1	19-Sep-08 07:46	98	19-Sep-08	16	s	Final phase sacrifice	19.1	C	C
ST1F3109	1	F	Dosing phase 1	19-Sep-08 07:47	98	19-Sep-08	16	s	Final phase sacrifice	19.7	C	C
ST1F3110	1	F	Dosing phase 1	19-Sep-08 07:47	98	19-Sep-08	16	s	Final phase sacrifice	20.0	C	C
ST1F3111	1	F	Dosing phase 1	19-Sep-08 07:48	98	19-Sep-08	16	s	Final phase sacrifice	22.9	C	C
ST1F3112	1	F	Dosing phase 1	19-Sep-08 07:48	98	19-Sep-08	16	s	Final phase sacrifice	19.8	C	C
ST1F3113	1	F	Dosing phase 1	19-Sep-08 07:49	98	19-Sep-08	16	s	Final phase sacrifice	20.7	C	C
ST2F3114	2	F	Dosing phase 1	18-Sep-08 07:49	116	18-Sep-08	16	s	Final phase sacrifice	21.5	C	C
ST2F3115	2	F	Dosing phase 1	18-Sep-08 07:50	116	18-Sep-08	16	s	Final phase sacrifice	22.9	C	C
ST2F3116	2	F	Dosing phase 1	18-Sep-08 07:44	116	18-Sep-08	16	s	Final phase sacrifice	20.9	C	C
ST2F3117	2	F	Dosing phase 1	18-Sep-08 07:45	116	18-Sep-08	16	s	Final phase sacrifice	21.6	C	C
ST2F3118	2	F	Dosing phase 1	18-Sep-08 07:44	116	18-Sep-08	16	s	Final phase sacrifice	21.8	C	C
ST2F3119	2	F	Dosing phase 1	18-Sep-08 07:50	116	18-Sep-08	16	s	Final phase sacrifice	24.2	C	C
ST2F3120	2	F	Dosing phase 1	19-Sep-08 07:50	98	19-Sep-08	16	s	Final phase sacrifice	23.2	C	C
ST2F3121	2	F	Dosing phase 1	19-Sep-08 07:50	98	19-Sep-08	16	s	Final phase sacrifice	21.4	C	C
ST2F3122	2	F	Dosing phase 1	19-Sep-08 07:50	98	19-Sep-08	16	s	Final phase sacrifice	21.6	C	C
ST2F3123	2	F	Dosing phase 1	19-Sep-08 07:51	98	19-Sep-08	16	s	Final phase sacrifice	20.6	C	C
ST2F3124	2	F	Dosing phase 1	19-Sep-08 07:51	98	19-Sep-08	16	s	Final phase sacrifice	19.5	C	C
ST2F3125	2	F	Dosing phase 1	19-Sep-08 07:51	98	19-Sep-08	16	s	Final phase sacrifice	21.8	C	C
ST2F3126	2	F	Dosing phase 1	19-Sep-08 07:52	98	19-Sep-08	16	s	Final phase sacrifice	24.1	C	C
ST2F3127	2	F	Dosing phase 1	19-Sep-08 07:52	98	19-Sep-08	16	s	Final phase sacrifice	22.8	C	C
ST2F3128	2	F	Dosing phase 1	19-Sep-08 07:52	98	19-Sep-08	16	s	Final phase sacrifice	20.9	C	C
ST3F3129	3	F	Dosing phase 1	18-Sep-08 07:45	116	18-Sep-08	16	s	Final phase sacrifice	22.2	C	C
ST3F3130	3	F	Dosing phase 1	18-Sep-08 07:51	116	18-Sep-08	16	s	Final phase sacrifice	22.3	C	C
ST3F3131	3	F	Dosing phase 1	18-Sep-08 07:54	116	18-Sep-08	16	s	Final phase sacrifice	22.0	C	C
ST3F3132	3	F	Dosing phase 1	18-Sep-08 07:51	116	18-Sep-08	16	s	Final phase sacrifice	22.4	C	C
ST3F3133	3	F	Dosing phase 1	18-Sep-08 07:46	116	18-Sep-08	16	s	Final phase sacrifice	23.4	C	C
ST3F3134	3	F	Dosing phase 1	18-Sep-08 07:54	116	18-Sep-08	16	s	Final phase sacrifice	22.5	C	C
ST3F3135	3	F	Dosing phase 1	18-Sep-08 07:46	116	18-Sep-08	16	s	Final phase sacrifice	22.5	C	C
ST3F3136	3	F	Dosing phase 1	18-Sep-08 07:50	116	18-Sep-08	16	s	Final phase sacrifice	22.4	C	C
ST3F3137	3	F	Dosing phase 1	18-Sep-08 07:54	116	18-Sep-08	16	s	Final phase sacrifice	21.1	C	C
ST3F3138	3	F	Dosing phase 1	19-Sep-08 07:53	98	19-Sep-08	16	s	Final phase sacrifice	23.1	C	C
ST3F3139	3	F	Dosing phase 1	19-Sep-08 07:53	98	19-Sep-08	16	s	Final phase sacrifice	20.5	C	C
ST3F3140	3	F	Dosing phase 1	19-Sep-08 07:54	98	19-Sep-08	16	s	Final phase sacrifice	21.5	C	C
ST3F3141	3	F	Dosing phase 1	19-Sep-08 07:54	98	19-Sep-08	16	s	Final phase sacrifice	21.8	C	C
ST3F3142	3	F	Dosing phase 1	19-Sep-08 07:55	98	19-Sep-08	16	s	Final phase sacrifice	22.8	C	C
ST3F3143	3	F	Dosing phase 1	19-Sep-08 07:55	98	19-Sep-08	16	s	Final phase sacrifice	21.1	C	C

Note: * = pretest animal no. P = partial data. C = complete data. - = no data.

Animal Number	Grp	Sex	Study Phase	Date and Time Data was Entered	Oper. No.	Date of Death	Phase Day	Death Typ	Status	Term. Wt. (g)	Body Ow	Body Grs
ST4F3144	4	F	Dosing phase 1	18-Sep-08 07:52	116	18-Sep-08	16	s	Final phase sacrifice	23.5	C	C
ST4F3145	4	F	Dosing phase 1	18-Sep-08 07:51	116	18-Sep-08	16	s	Final phase sacrifice	21.2	C	C
ST4F3146	4	F	Dosing phase 1	18-Sep-08 07:47	116	18-Sep-08	16	s	Final phase sacrifice	23.4	C	C
ST4F3147	4	F	Dosing phase 1	18-Sep-08 07:47	116	18-Sep-08	16	s	Final phase sacrifice	21.7	C	C
ST4F3148	4	F	Dosing phase 1	18-Sep-08 07:47	116	18-Sep-08	16	s	Final phase sacrifice	23.7	C	C
ST4F3149	4	F	Dosing phase 1	18-Sep-08 07:52	116	18-Sep-08	16	s	Final phase sacrifice	22.0	C	C
ST4F3150	4	F	Dosing phase 1	19-Sep-08 07:56	98	19-Sep-08	16	s	Final phase sacrifice	21.3	C	C
ST4F3151	4	F	Dosing phase 1	19-Sep-08 07:56	98	19-Sep-08	16	s	Final phase sacrifice	22.3	C	C
ST4F3152	4	F	Dosing phase 1	19-Sep-08 07:56	98	19-Sep-08	16	s	Final phase sacrifice	23.3	C	C
ST4F3153	4	F	Dosing phase 1	19-Sep-08 07:57	98	19-Sep-08	16	s	Final phase sacrifice	22.4	C	C
ST4F3154	4	F	Dosing phase 1	19-Sep-08 07:57	98	19-Sep-08	16	s	Final phase sacrifice	21.8	C	C
ST4F3155	4	F	Dosing phase 1	19-Sep-08 07:58	98	19-Sep-08	16	s	Final phase sacrifice	25.1	C	C
ST4F3156	4	F	Dosing phase 1	19-Sep-08 07:58	98	19-Sep-08	16	s	Final phase sacrifice	23.0	C	C
ST4F3157	4	F	Dosing phase 1	19-Sep-08 07:59	98	19-Sep-08	16	s	Final phase sacrifice	21.0	C	C
ST4F3158	4	F	Dosing phase 1	19-Sep-08 07:59	98	19-Sep-08	16	s	Final phase sacrifice	22.1	C	C

Note: * = pretest animal no. P = partial data. C = complete data. - = no data.

APPENDIX B - **INDIVIDUAL BODY WEIGHTS**

App. B1 **Individual body weights - 3 Days**

App. B2 **Individual body weights - 14 Days**

App. B1 **Individual body weights - 3 Days**

GROUP	DURATION OF EXPOSURE	TEST SUBSTANCE	DOSE LEVELS	NUMBER OF ANIMALS PER GROUP	ANIMAL IDENTITY	
FEMALES					SG1 (Sept. 04, 2008)	SG2 (Sept. 05, 2008)
1	3 Days	Phenobarbital	80 mg/kg/day	15	ST1F3039 to 3047	ST1F3048 to 3053
2	3 Days	Control	0	15	ST2F3054 to 3059	ST2F3060 to 3068
3	3 Days	TERTIARY BUTANOL	2 mg/mL	15	ST3F3069 to 3077	ST3F3078 to 3083
4	3 Days		20 mg/mL	15	ST4F3084 to 3089	ST4F3090 to 3098
FEMALES					SG1 (Sept. 03, 2008)	SG2 (Sept. 04, 2008)
1	14 Days	Phenobarbital	80 mg/kg/day	15	ST1F3099 to 3107	ST1F3108 to 3113
2	14 Days	Control	0	15	ST2F3114 to 3119	ST2F3120 to 3128
3	14 Days	TERTIARY BUTANOL	2 mg/mL	15	ST3F3129 to 3137	ST3F3138 to 3143
4	14 Days		20 mg/mL	15	ST4F3144 to 3149	ST4F3150 to 3158

Note: The missing value corresponds to the animal ST4F3098 that died on Study Day 3 without any significant macroscopic finding. This death was considered not to be treatment-related.

Bayer CropScience
Center of Toxicology
Sophia-Antipolis
Mouse/B6C3F1

ANIMAL BODY WEIGHTS IN (G)
Study number: SA 08160
Study start date: 04-Sep-08

Printed: 19-Nov-08
Page: 1
Mechanistic study/Exploratory study

DOSAGE IN mg/kg ANIMAL		SEX	DAY OF PHASE 1	4
			FEMALE ANIMALS	
ST1F3039	80.0	F	21.3	22.1
ST1F3040			21.6	21.6
ST1F3041			21.2	21.2
ST1F3042			21.4	22.8
ST1F3043			21.9	21.8
ST1F3044			22.6	22.4
ST1F3045			21.8	22.3
ST1F3046			20.1	19.7
ST1F3047			20.6	21.1
ST1F3048			23.4	22.9
ST1F3049			22.1	21.6
ST1F3050			22.5	23.0
ST1F3051			22.6	21.5
ST1F3052			23.2	23.0
ST1F3053			22.4	21.1
		(n)	15	15
ST2F3054	0.0	F	22.5	22.2
ST2F3055			22.5	23.3
ST2F3056			20.1	20.6
ST2F3057			21.4	21.2
ST2F3058			22.5	23.2
ST2F3059			21.4	21.5
ST2F3060			22.1	23.4
ST2F3061			22.2	23.2
ST2F3062			21.9	22.6
ST2F3063			19.7	19.8
ST2F3064			22.3	21.4
ST2F3065			21.9	21.8
ST2F3066			22.4	22.1
ST2F3067			22.7	22.7
ST2F3068			20.7	21.3
		(n)	15	15
ST3F3069	0.0	F	21.0	21.5
ST3F3070			23.2	23.4
ST3F3071			22.4	22.1
ST3F3072			21.7	22.6
ST3F3073			22.7	23.1
ST3F3074			20.9	20.5

NOTE: DATA FOR Dosing phase 1

DOSAGE IN mg/kg ANIMAL		SEX	DAY OF PHASE 1	4
			FEMALE ANIMALS	
ST3F3075	0.0	F	20.4	20.6
ST3F3076			22.9	22.4
ST3F3077			22.4	23.8
ST3F3078			22.1	23.2
ST3F3079			21.7	22.0
ST3F3080			21.4	21.7
ST3F3081			21.0	20.8
ST3F3082			22.4	22.5
ST3F3083			21.6	20.9
		(n)	15	15
ST4F3084	0.0	F	23.5	21.7
ST4F3085			22.8	22.8
ST4F3086			23.1	23.7
ST4F3087			22.6	21.6
ST4F3088			21.4	22.7
ST4F3089			21.4	21.1
ST4F3090			22.0	21.2
ST4F3091			20.6	20.5
ST4F3092			22.1	21.3
ST4F3093			22.3	22.5
ST4F3094			22.7	21.8
ST4F3095			22.3	22.3
ST4F3096			21.3	21.3
ST4F3097			21.6	23.2
ST4F3098			22.4	
		(n)	15	14

NOTE: DATA FOR Dosing phase 1

App. B2 **Individual body weights - 14 Days**

GROUP	DURATION OF EXPOSURE	TEST SUBSTANCE	DOSE LEVELS	NUMBER OF ANIMALS PER GROUP	ANIMAL IDENTITY	
FEMALES					SG1 (Sept. 04, 2008)	SG2 (Sept. 05, 2008)
1	3 Days	Phenobarbital	80 mg/kg/day	15	ST1F3039 to 3047	ST1F3048 to 3053
2	3 Days	Control	0	15	ST2F3054 to 3059	ST2F3060 to 3068
3	3 Days	TERTIARY BUTANOL	2 mg/mL	15	ST3F3069 to 3077	ST3F3078 to 3083
4	3 Days		20 mg/mL	15	ST4F3084 to 3089	ST4F3090 to 3098
FEMALES					SG1 (Sept. 03, 2008)	SG2 (Sept. 04, 2008)
1	14 Days	Phenobarbital	80 mg/kg/day	15	ST1F3099 to 3107	ST1F3108 to 3113
2	14 Days	Control	0	15	ST2F3114 to 3119	ST2F3120 to 3128
3	14 Days	TERTIARY BUTANOL	2 mg/mL	15	ST3F3129 to 3137	ST3F3138 to 3143
4	14 Days		20 mg/mL	15	ST4F3144 to 3149	ST4F3150 to 3158

Bayer CropScience
Center of Toxicology
Sophia-Antipolis
Mouse/B6C3F1

ANIMAL BODY WEIGHTS IN (G)
Study number: SA-08160

Study start date: 03-Sep-08

Printed: 27-Nov-08
Page: 1

Mechanistic study/Exploratory study

DOSAGE IN mg/kg ANIMAL		SEX	DAY OF PHASE 1	8	15
			FEMALE ANIMALS		
ST1F3099	80.0	F	20.9	22.5	22.4
ST1F3100			20.8	21.1	22.0
ST1F3101			19.2	19.3	19.7
ST1F3102			20.6	21.1	21.7
ST1F3103			19.7	20.1	21.1
ST1F3104			20.1	19.5	19.1
ST1F3105			20.2	21.1	21.6
ST1F3106			21.3	21.4	21.8
ST1F3107			19.9	20.0	20.0
ST1F3108			19.4	18.8	19.0
ST1F3109			19.8	19.6	19.2
ST1F3110			20.0	19.5	19.3
ST1F3111			21.7	22.1	22.2
ST1F3112			20.2	18.5	18.8
ST1F3113			19.4	19.7	19.8
		(n)	15	15	15
ST2F3114	0.0	F	20.6	20.6	21.2
ST2F3115			21.7	22.8	22.2
ST2F3116			19.4	19.9	20.4
ST2F3117			19.7	20.4	20.8
ST2F3118			19.4	20.8	22.0
ST2F3119			21.0	22.4	23.5
ST2F3120			20.9	21.4	22.6
ST2F3121			19.2	20.4	20.9
ST2F3122			19.7	20.8	21.8
ST2F3123			19.2	20.1	20.1
ST2F3124			18.8	20.0	18.8
ST2F3125			20.4	20.8	21.6
ST2F3126			21.5	23.1	22.7
ST2F3127			21.4	23.0	22.6
ST2F3128			19.1	20.5	20.9
		(n)	15	15	15
ST3F3129	0.0	F	20.2	20.4	21.8
ST3F3130			21.1	21.2	22.6
ST3F3131			19.5	20.9	21.9
ST3F3132			19.1	20.2	21.4
ST3F3133			22.1	22.7	22.7
ST3F3134			20.2	21.3	21.8

NOTE: DATA FOR Dosing phase 1

DOSAGE IN mg/kg ANIMAL		SEX	DAY OF PHASE 1	8	15
			FEMALE ANIMALS		
ST3F3135	0.0	F	21.2	21.3	22.6
ST3F3136			20.6	20.8	22.4
ST3F3137			19.8	20.0	21.2
ST3F3138			21.3	22.1	23.1
ST3F3139			19.8	19.9	20.6
ST3F3140			19.8	20.9	20.8
ST3F3141			19.3	20.3	20.3
ST3F3142			18.9	20.4	21.2
ST3F3143			19.3	20.4	21.0
		(n)	15	15	15
ST4F3144	0.0	F	20.5	21.8	22.8
ST4F3145			19.6	20.2	21.4
ST4F3146			20.6	21.2	23.5
ST4F3147			20.5	21.1	21.2
ST4F3148			22.0	22.3	22.9
ST4F3149			20.1	21.5	22.3
ST4F3150			20.0	20.8	20.4
ST4F3151			19.2	21.7	21.8
ST4F3152			20.8	22.1	23.3
ST4F3153			20.0	20.8	21.3
ST4F3154			19.7	20.1	21.3
ST4F3155			20.5	23.0	24.2
ST4F3156			21.8	21.5	22.2
ST4F3157			18.7	20.3	20.7
ST4F3158			20.2	20.9	21.4
		(n)	15	15	15

NOTE: DATA FOR Dosing phase 1

APPENDIX C - **INDIVIDUAL BODY WEIGHT GAINS PER INTERVAL**

App. C1 **Individual body weight gains per interval - 3 Days**

App. C2 **Individual body weight gains per interval - 14 Days**

App. C1 **Individual body weight gains per interval - 3 Days**

GROUP	DURATION OF EXPOSURE	TEST SUBSTANCE	DOSE LEVELS	NUMBER OF ANIMALS PER GROUP	ANIMAL IDENTITY	
FEMALES					SG1 (Sept. 04, 2008)	SG2 (Sept. 05, 2008)
1	3 Days	Phenobarbital	80 mg/kg/day	15	ST1F3039 to 3047	ST1F3048 to 3053
2	3 Days	Control	0	15	ST2F3054 to 3059	ST2F3060 to 3068
3	3 Days	TERTIARY BUTANOL	2 mg/mL	15	ST3F3069 to 3077	ST3F3078 to 3083
4	3 Days		20 mg/mL	15	ST4F3084 to 3089	ST4F3090 to 3098
FEMALES					SG1 (Sept. 03, 2008)	SG2 (Sept. 04, 2008)
1	14 Days	Phenobarbital	80 mg/kg/day	15	ST1F3099 to 3107	ST1F3108 to 3113
2	14 Days	Control	0	15	ST2F3114 to 3119	ST2F3120 to 3128
3	14 Days	TERTIARY BUTANOL	2 mg/mL	15	ST3F3129 to 3137	ST3F3138 to 3143
4	14 Days		20 mg/mL	15	ST4F3144 to 3149	ST4F3150 to 3158

Note: The missing value corresponds to the animal ST4F3098 that died on Study Day 3 without any significant macroscopic finding. This death was considered not to be treatment-related.

ANIMAL WEIGHT GAINS PER DAY IN (G)
Study number: SA 08160
Study start date: 04-Sep-08

Mechanistic study/Exploratory study

DOSAGE IN mg/kg ANIMAL		SEX	DAY OF PHASE 4
			FEMALE ANIMALS
ST1F3039	80.0	F	0.27
ST1F3040			0.00
ST1F3041			0.00
ST1F3042			0.47
ST1F3043			-0.03
ST1F3044			-0.07
ST1F3045			0.17
ST1F3046			-0.13
ST1F3047			0.17
ST1F3048			-0.17
ST1F3049			-0.17
ST1F3050			0.17
ST1F3051			-0.37
ST1F3052			-0.07
ST1F3053			-0.43
		(n)	15
ST2F3054	0.0	F	-0.10
ST2F3055			0.27
ST2F3056			0.17
ST2F3057			-0.07
ST2F3058			0.23
ST2F3059			0.03
ST2F3060			0.43
ST2F3061			0.33
ST2F3062			0.23
ST2F3063			0.03
ST2F3064			-0.30
ST2F3065			-0.03
ST2F3066			-0.10
ST2F3067			0.00
ST2F3068			0.20
		(n)	15
ST3F3069	0.0	F	0.17
ST3F3070			0.07
ST3F3071			-0.10
ST3F3072			0.30
ST3F3073			0.13
ST3F3074			-0.13

NOTE: DATA FOR Dosing phase 1

DOSAGE IN mg/kg ANIMAL	SEX	DAY OF PHASE 4
		FEMALE ANIMALS
ST3F3075 0.0	F	0.07
ST3F3076		-0.17
ST3F3077		0.47
ST3F3078		0.37
ST3F3079		0.10
ST3F3080		0.10
ST3F3081		-0.07
ST3F3082		0.03
ST3F3083		-0.23
	(n)	15
ST4F3084 0.0	F	-0.60
ST4F3085		0.00
ST4F3086		0.20
ST4F3087		-0.33
ST4F3088		0.43
ST4F3089		-0.10
ST4F3090		-0.27
ST4F3091		-0.03
ST4F3092		-0.27
ST4F3093		0.07
ST4F3094		-0.30
ST4F3095		0.00
ST4F3096		0.00
ST4F3097		0.53
	(n)	14

NOTE: DATA FOR Dosing phase 1

App. C2 Individual body weight gains per interval - 14 Days

GROUP	DURATION OF EXPOSURE	TEST SUBSTANCE	DOSE LEVELS	NUMBER OF ANIMALS PER GROUP	ANIMAL IDENTITY	
FEMALES					SG1 (Sept. 04, 2008)	SG2 (Sept. 05, 2008)
1	3 Days	Phenobarbital	80 mg/kg/day	15	ST1F3039 to 3047	ST1F3048 to 3053
2	3 Days	Control	0	15	ST2F3054 to 3059	ST2F3060 to 3068
3	3 Days	TERTIARY BUTANOL	2 mg/mL	15	ST3F3069 to 3077	ST3F3078 to 3083
4	3 Days		20 mg/mL	15	ST4F3084 to 3089	ST4F3090 to 3098
FEMALES					SG1 (Sept. 03, 2008)	SG2 (Sept. 04, 2008)
1	14 Days	Phenobarbital	80 mg/kg/day	15	ST1F3099 to 3107	ST1F3108 to 3113
2	14 Days	Control	0	15	ST2F3114 to 3119	ST2F3120 to 3128
3	14 Days	TERTIARY BUTANOL	2 mg/mL	15	ST3F3129 to 3137	ST3F3138 to 3143
4	14 Days		20 mg/mL	15	ST4F3144 to 3149	ST4F3150 to 3158

Bayer CropScience
Center of Toxicology
Sophia-Antipolis
Mouse/B6C3F1

ANIMAL WEIGHT GAINS PER DAY IN (G)
Study number: SA-08160
Study start date: 03-Sep-08

Printed: 27-Nov-08
Page: 1
Mechanistic study/Exploratory study

DOSAGE IN mg/kg ANIMAL		SEX	DAY OF PHASE 8	15
			FEMALE ANIMALS	
ST1F3099	80.0	F	0.23	-0.01
ST1F3100			0.04	0.13
ST1F3101			0.01	0.06
ST1F3102			0.07	0.09
ST1F3103			0.06	0.14
ST1F3104			-0.09	-0.06
ST1F3105			0.13	0.07
ST1F3106			0.01	0.06
ST1F3107			0.01	0.00
ST1F3108			-0.09	0.03
ST1F3109			-0.03	-0.06
ST1F3110			-0.07	-0.03
ST1F3111			0.06	0.01
ST1F3112			-0.24	0.04
ST1F3113			0.04	0.01
		(n)	15	15
ST2F3114	0.0	F	0.00	0.09
ST2F3115			0.16	-0.09
ST2F3116			0.07	0.07
ST2F3117			0.10	0.06
ST2F3118			0.20	0.17
ST2F3119			0.20	0.16
ST2F3120			0.07	0.17
ST2F3121			0.17	0.07
ST2F3122			0.16	0.14
ST2F3123			0.13	0.00
ST2F3124			0.17	-0.17
ST2F3125			0.06	0.11
ST2F3126			0.23	-0.06
ST2F3127			0.23	-0.06
ST2F3128			0.20	0.06
		(n)	15	15
ST3F3129	0.0	F	0.03	0.20
ST3F3130			0.01	0.20
ST3F3131			0.20	0.14
ST3F3132			0.16	0.17
ST3F3133			0.09	0.00
ST3F3134			0.16	0.07

NOTE: DATA FOR Dosing phase 1

DOSAGE IN mg/kg ANIMAL		SEX	DAY OF PHASE 8	15
			FEMALE ANIMALS	
ST3F3135	0.0	F	0.01	0.19
ST3F3136			0.03	0.23
ST3F3137			0.03	0.17
ST3F3138			0.11	0.14
ST3F3139			0.01	0.10
ST3F3140			0.16	-0.01
ST3F3141			0.14	0.00
ST3F3142			0.21	0.11
ST3F3143			0.16	0.09
		(n)	15	15
ST4F3144	0.0	F	0.19	0.14
ST4F3145			0.09	0.17
ST4F3146			0.09	0.33
ST4F3147			0.09	0.01
ST4F3148			0.04	0.09
ST4F3149			0.20	0.11
ST4F3150			0.11	-0.06
ST4F3151			0.36	0.01
ST4F3152			0.19	0.17
ST4F3153			0.11	0.07
ST4F3154			0.06	0.17
ST4F3155			0.36	0.17
ST4F3156			-0.04	0.10
ST4F3157			0.23	0.06
ST4F3158			0.10	0.07
		(n)	15	15

NOTE: DATA FOR Dosing phase 1

APPENDIX D - INDIVIDUAL CUMULATIVE BODY WEIGHT GAINS

App. D1 **Individual cumulative body weight gains - 3 Days**

App. D2 **Individual cumulative body weight gains - 14 Days**

App. D1 **Individual cumulative body weight gains - 3 Days**

GROUP	DURATION OF EXPOSURE	TEST SUBSTANCE	DOSE LEVELS	NUMBER OF ANIMALS PER GROUP	ANIMAL IDENTITY	
FEMALES					SG1 (Sept. 04, 2008)	SG2 (Sept. 05, 2008)
1	3 Days	Phenobarbital	80 mg/kg/day	15	ST1F3039 to 3047	ST1F3048 to 3053
2	3 Days	Control	0	15	ST2F3054 to 3059	ST2F3060 to 3068
3	3 Days	TERTIARY BUTANOL	2 mg/mL	15	ST3F3069 to 3077	ST3F3078 to 3083
4	3 Days		20 mg/mL	15	ST4F3084 to 3089	ST4F3090 to 3098
FEMALES					SG1 (Sept. 03, 2008)	SG2 (Sept. 04, 2008)
1	14 Days	Phenobarbital	80 mg/kg/day	15	ST1F3099 to 3107	ST1F3108 to 3113
2	14 Days	Control	0	15	ST2F3114 to 3119	ST2F3120 to 3128
3	14 Days	TERTIARY BUTANOL	2 mg/mL	15	ST3F3129 to 3137	ST3F3138 to 3143
4	14 Days		20 mg/mL	15	ST4F3144 to 3149	ST4F3150 to 3158

Note: The missing value corresponds to the animal ST4F3098 that died on Study Day 3 without any significant macroscopic finding. This death was considered not to be treatment-related.

ANIMAL ABSOLUTE WEIGHT GAINS IN (G)
Study number: SA 08160
ABSOLUTE WEIGHT GAINS REFERENCED TO Dosing phase 1 (DAY 1)
Study start date: 04-Sep-08

Mechanistic study/Exploratory study

DOSAGE IN mg/kg ANIMAL		SEX	DAY OF PHASE 4
			FEMALE ANIMALS
ST1F3039	80.0	F	0.8
ST1F3040			0.0
ST1F3041			0.0
ST1F3042			1.4
ST1F3043			-0.1
ST1F3044			-0.2
ST1F3045			0.5
ST1F3046			-0.4
ST1F3047			0.5
ST1F3048			-0.5
ST1F3049			-0.5
ST1F3050			0.5
ST1F3051			-1.1
ST1F3052			-0.2
ST1F3053			-1.3
		(n)	15
ST2F3054	0.0	F	-0.3
ST2F3055			0.8
ST2F3056			0.5
ST2F3057			-0.2
ST2F3058			0.7
ST2F3059			0.1
ST2F3060			1.3
ST2F3061			1.0
ST2F3062			0.7
ST2F3063			0.1
ST2F3064			-0.9
ST2F3065			-0.1
ST2F3066			-0.3
ST2F3067			0.0
ST2F3068			0.6
		(n)	15
ST3F3069	0.0	F	0.5
ST3F3070			0.2
ST3F3071			-0.3
ST3F3072			0.9
ST3F3073			0.4
ST3F3074			-0.4

NOTE: DATA FOR Dosing phase 1

ANIMAL ABSOLUTE WEIGHT GAINS IN (G)
Study number: SA 08160
ABSOLUTE WEIGHT GAINS REFERENCED TO Dosing phase 1 (DAY 1)
Study start date: 04-Sep-08

Mechanistic study/Exploratory study

DOSAGE IN mg/kg ANIMAL		SEX	DAY OF PHASE 4
			FEMALE ANIMALS
ST3F3075	0.0	F	0.2
ST3F3076			-0.5
ST3F3077			1.4
ST3F3078			1.1
ST3F3079			0.3
ST3F3080			0.3
ST3F3081			-0.2
ST3F3082			0.1
ST3F3083			-0.7
		(n)	15
ST4F3084	0.0	F	-1.8
ST4F3085			0.0
ST4F3086			0.6
ST4F3087			-1.0
ST4F3088			1.3
ST4F3089			-0.3
ST4F3090			-0.8
ST4F3091			-0.1
ST4F3092			-0.8
ST4F3093			0.2
ST4F3094			-0.9
ST4F3095			0.0
ST4F3096			0.0
ST4F3097			1.6
ST4F3098			
		(n)	14

NOTE: DATA FOR Dosing phase 1

App. D2 **Individual cumulative body weight gains - 14 Days**

GROUP	DURATION OF EXPOSURE	TEST SUBSTANCE	DOSE LEVELS	NUMBER OF ANIMALS PER GROUP	ANIMAL IDENTITY	
FEMALES					SG1 (Sept. 04, 2008)	SG2 (Sept. 05, 2008)
1	3 Days	Phenobarbital	80 mg/kg/day	15	ST1F3039 to 3047	ST1F3048 to 3053
2	3 Days	Control	0	15	ST2F3054 to 3059	ST2F3060 to 3068
3	3 Days	TERTIARY BUTANOL	2 mg/mL	15	ST3F3069 to 3077	ST3F3078 to 3083
4	3 Days		20 mg/mL	15	ST4F3084 to 3089	ST4F3090 to 3098
FEMALES					SG1 (Sept. 03, 2008)	SG2 (Sept. 04, 2008)
1	14 Days	Phenobarbital	80 mg/kg/day	15	ST1F3099 to 3107	ST1F3108 to 3113
2	14 Days	Control	0	15	ST2F3114 to 3119	ST2F3120 to 3128
3	14 Days	TERTIARY BUTANOL	2 mg/mL	15	ST3F3129 to 3137	ST3F3138 to 3143
4	14 Days		20 mg/mL	15	ST4F3144 to 3149	ST4F3150 to 3158

ANIMAL ABSOLUTE WEIGHT GAINS IN (G)
Study number: SA-08160
ABSOLUTE WEIGHT GAINS REFERENCED TO Dosing phase 1 (DAY 1)
Study start date: 03-Sep-08

Mechanistic study/Exploratory study

DOSAGE IN mg/kg ANIMAL		SEX	DAY OF PHASE 8	DAY OF PHASE 15
			FEMALE ANIMALS	
ST1F3099	80.0	F	1.6	1.5
ST1F3100			0.3	1.2
ST1F3101			0.1	0.5
ST1F3102			0.5	1.1
ST1F3103			0.4	1.4
ST1F3104			-0.6	-1.0
ST1F3105			0.9	1.4
ST1F3106			0.1	0.5
ST1F3107			0.1	0.1
ST1F3108			-0.6	-0.4
ST1F3109			-0.2	-0.6
ST1F3110			-0.5	-0.7
ST1F3111			0.4	0.5
ST1F3112			-1.7	-1.4
ST1F3113			0.3	0.4
		(n)	15	15
ST2F3114	0.0	F	0.0	0.6
ST2F3115			1.1	0.5
ST2F3116			0.5	1.0
ST2F3117			0.7	1.1
ST2F3118			1.4	2.6
ST2F3119			1.4	2.5
ST2F3120			0.5	1.7
ST2F3121			1.2	1.7
ST2F3122			1.1	2.1
ST2F3123			0.9	0.9
ST2F3124			1.2	0.0
ST2F3125			0.4	1.2
ST2F3126			1.6	1.2
ST2F3127			1.6	1.2
ST2F3128			1.4	1.8
		(n)	15	15
ST3F3129	0.0	F	0.2	1.6
ST3F3130			0.1	1.5
ST3F3131			1.4	2.4
ST3F3132			1.1	2.3
ST3F3133			0.6	0.6
ST3F3134			1.1	1.6

NOTE: DATA FOR Dosing phase 1

ANIMAL ABSOLUTE WEIGHT GAINS IN (G)
Study number: SA-08160
ABSOLUTE WEIGHT GAINS REFERENCED TO Dosing phase 1 (DAY 1)
Study start date: 03-Sep-08

Mechanistic study/Exploratory study

DOSAGE IN mg/kg ANIMAL		SEX	DAY OF PHASE 8	15
			FEMALE ANIMALS	
ST3F3135	0.0	F	0.1	1.4
ST3F3136			0.2	1.8
ST3F3137			0.2	1.4
ST3F3138			0.8	1.8
ST3F3139			0.1	0.8
ST3F3140			1.1	1.0
ST3F3141			1.0	1.0
ST3F3142			1.5	2.3
ST3F3143			1.1	1.7
		(n)	15	15
ST4F3144	0.0	F	1.3	2.3
ST4F3145			0.6	1.8
ST4F3146			0.6	2.9
ST4F3147			0.6	0.7
ST4F3148			0.3	0.9
ST4F3149			1.4	2.2
ST4F3150			0.8	0.4
ST4F3151			2.5	2.6
ST4F3152			1.3	2.5
ST4F3153			0.8	1.3
ST4F3154			0.4	1.6
ST4F3155			2.5	3.7
ST4F3156			-0.3	0.4
ST4F3157			1.6	2.0
ST4F3158			0.7	1.2
		(n)	15	15

NOTE: DATA FOR Dosing phase 1

APPENDIX E - **INDIVIDUAL FOOD CONSUMPTION**

App. E1 **Individual food consumption - 3 Days**

App. E2 **Individual food consumption - 14 Days**

App. E1 **Individual food consumption - 3 Days**

GROUP	DURATION OF EXPOSURE	TEST SUBSTANCE	DOSE LEVELS	NUMBER OF ANIMALS PER GROUP	ANIMAL IDENTITY	
FEMALES					SG1 (Sept. 04, 2008)	SG2 (Sept. 05, 2008)
1	3 Days	Phenobarbital	80 mg/kg/day	15	ST1F3039 to 3047	ST1F3048 to 3053
2	3 Days	Control	0	15	ST2F3054 to 3059	ST2F3060 to 3068
3	3 Days	TERTIARY BUTANOL	2 mg/mL	15	ST3F3069 to 3077	ST3F3078 to 3083
4	3 Days		20 mg/mL	15	ST4F3084 to 3089	ST4F3090 to 3098
FEMALES					SG1 (Sept. 03, 2008)	SG2 (Sept. 04, 2008)
1	14 Days	Phenobarbital	80 mg/kg/day	15	ST1F3099 to 3107	ST1F3108 to 3113
2	14 Days	Control	0	15	ST2F3114 to 3119	ST2F3120 to 3128
3	14 Days	TERTIARY BUTANOL	2 mg/mL	15	ST3F3129 to 3137	ST3F3138 to 3143
4	14 Days		20 mg/mL	15	ST4F3144 to 3149	ST4F3150 to 3158

Note: The missing value corresponds to the animal ST4F3098 that died on Study Day 3 without any significant macroscopic finding. This death was considered not to be treatment-related.

INDIVIDUAL ANIMAL FEED CONSUMED/DAY (G)
Study number: SA 08160
Study start date: 04-Sep-08

Mechanistic study/Exploratory study

DOSAGE IN mg/kg ANIMAL		SEX	DAY OF PHASE 4
			FEMALE ANIMALS
ST1F3039	80.0	F	5.5
ST1F3040			5.9
ST1F3041			4.6
ST1F3042			5.8
ST1F3043			4.5
ST1F3044			4.3
ST1F3045			5.0
ST1F3046			4.4
ST1F3047			4.8
ST1F3048			4.9
ST1F3049			4.8
ST1F3050			7.3
ST1F3051			5.4
ST1F3052			6.0
ST1F3053			5.1
		(n)	15
ST2F3054	0.0	F	5.3
ST2F3055			6.0
ST2F3056			4.5
ST2F3057			4.0
ST2F3058			5.5
ST2F3059			5.1
ST2F3060			6.5
ST2F3061			5.5
ST2F3062			6.9
ST2F3063			4.7
ST2F3064			4.8
ST2F3065			6.8
ST2F3066			5.6
ST2F3067			5.8
ST2F3068			5.8
		(n)	15
ST3F3069	0.0	F	4.4
ST3F3070			5.2
ST3F3071			5.1
ST3F3072			5.2
ST3F3073			5.0
ST3F3074			4.6

NOTE: DATA FOR Dosing phase 1

DOSAGE IN mg/kg ANIMAL		SEX	DAY OF PHASE 4
			FEMALE ANIMALS
ST3F3075	0.0	F	5.5
ST3F3076			4.7
ST3F3077			6.1
ST3F3078			6.7
ST3F3079			6.5
ST3F3080			6.7
ST3F3081			5.1
ST3F3082			6.0
ST3F3083			5.0
		(n)	15
ST4F3084	0.0	F	4.3
ST4F3085			4.9
ST4F3086			5.5
ST4F3087			4.2
ST4F3088			5.7
ST4F3089			5.6
ST4F3090			4.8
ST4F3091			6.1
ST4F3092			5.0
ST4F3093			6.8
ST4F3094			5.5
ST4F3095			6.7
ST4F3096			5.8
ST4F3097			6.5
		(n)	14

NOTE: DATA FOR Dosing phase 1

App. E2 **Individual food consumption - 14 Days**

GROUP	DURATION OF EXPOSURE	TEST SUBSTANCE	DOSE LEVELS	NUMBER OF ANIMALS PER GROUP	ANIMAL IDENTITY	
FEMALES					SG1 (Sept. 04, 2008)	SG2 (Sept. 05, 2008)
1	3 Days	Phenobarbital	80 mg/kg/day	15	ST1F3039 to 3047	ST1F3048 to 3053
2	3 Days	Control	0	15	ST2F3054 to 3059	ST2F3060 to 3068
3	3 Days	TERTIARY BUTANOL	2 mg/mL	15	ST3F3069 to 3077	ST3F3078 to 3083
4	3 Days		20 mg/mL	15	ST4F3084 to 3089	ST4F3090 to 3098
FEMALES					SG1 (Sept. 03, 2008)	SG2 (Sept. 04, 2008)
1	14 Days	Phenobarbital	80 mg/kg/day	15	ST1F3099 to 3107	ST1F3108 to 3113
2	14 Days	Control	0	15	ST2F3114 to 3119	ST2F3120 to 3128
3	14 Days	TERTIARY BUTANOL	2 mg/mL	15	ST3F3129 to 3137	ST3F3138 to 3143
4	14 Days		20 mg/mL	15	ST4F3144 to 3149	ST4F3150 to 3158

INDIVIDUAL ANIMAL FEED CONSUMED/DAY (G)
Study number: SA-08160
Study start date: 03-Sep-08

Mechanistic study/Exploratory study

DOSAGE IN mg/kg ANIMAL		SEX	DAY OF PHASE 8	DAY OF PHASE 15
			FEMALE ANIMALS	
ST1F3099	80.0	F	6.0	5.5
ST1F3100			4.8	5.6
ST1F3101			5.5	5.6
ST1F3102			5.1	5.5
ST1F3103			6.0	5.9
ST1F3104			6.3	6.1
ST1F3105			6.1	5.6
ST1F3106			6.1	6.6
ST1F3107			5.6	5.7
ST1F3108			4.1	4.2
ST1F3109			4.4	5.1
ST1F3110			3.9	3.7
ST1F3111			5.3	5.6
ST1F3112			3.7	4.8
ST1F3113			4.6	4.9
		(n)	15	15
ST2F3114	0.0	F	5.0	4.8
ST2F3115			4.8	4.7
ST2F3116			4.4	4.8
ST2F3117			4.7	5.9
ST2F3118			4.8	5.6
ST2F3119			4.7	5.4
ST2F3120			3.9	5.6
ST2F3121			3.9	4.8
ST2F3122			4.6	4.7
ST2F3123			4.4	4.8
ST2F3124			4.6	4.4
ST2F3125			5.0	7.1
ST2F3126			5.5	5.2
ST2F3127			4.9	5.4
ST2F3128			4.6	4.9
		(n)	15	15
ST3F3129	0.0	F	4.7	5.7
ST3F3130			4.4	5.2
ST3F3131			4.7	4.9
ST3F3132			4.5	4.9
ST3F3133			4.5	4.8
ST3F3134			4.6	4.9

NOTE: DATA FOR Dosing phase 1

DOSAGE IN mg/kg ANIMAL		SEX	DAY OF PHASE 8	15
			FEMALE ANIMALS	
ST3F3135	0.0	F	4.4	4.8
ST3F3136			4.8	5.2
ST3F3137			4.7	4.8
ST3F3138			4.9	4.8
ST3F3139			4.2	5.0
ST3F3140			4.5	4.9
ST3F3141			4.2	4.2
ST3F3142			4.6	5.2
ST3F3143			4.2	4.6
		(n)	15	15
ST4F3144	0.0	F	4.4	5.1
ST4F3145			4.2	4.7
ST4F3146			4.6	5.3
ST4F3147			4.5	4.5
ST4F3148			4.8	4.9
ST4F3149			4.1	5.6
ST4F3150			4.6	4.7
ST4F3151			4.6	4.9
ST4F3152			4.6	5.2
ST4F3153			4.8	5.0
ST4F3154			4.5	5.2
ST4F3155			5.3	4.9
ST4F3156			4.2	4.7
ST4F3157			4.4	4.6
ST4F3158			4.0	4.5
		(n)	15	15

NOTE: DATA FOR Dosing phase 1

APPENDIX F - **INDIVIDUAL WATER CONSUMPTION**

App. F1 **Individual water consumption - 3 Days**

App. F2 **Individual water consumption - 14 Days**

App. F1 **Individual water consumption - 3 Days**

GROUP	DURATION OF EXPOSURE	TEST SUBSTANCE	DOSE LEVELS	NUMBER OF ANIMALS PER GROUP	ANIMAL IDENTITY	
FEMALES					SG1 (Sept. 04, 2008)	SG2 (Sept. 05, 2008)
1	3 Days	Phenobarbital	80 mg/kg/day	15	ST1F3039 to 3047	ST1F3048 to 3053
2	3 Days	Control	0	15	ST2F3054 to 3059	ST2F3060 to 3068
3	3 Days	TERTIARY BUTANOL	2 mg/mL	15	ST3F3069 to 3077	ST3F3078 to 3083
4	3 Days		20 mg/mL	15	ST4F3084 to 3089	ST4F3090 to 3098
FEMALES					SG1 (Sept. 03, 2008)	SG2 (Sept. 04, 2008)
1	14 Days	Phenobarbital	80 mg/kg/day	15	ST1F3099 to 3107	ST1F3108 to 3113
2	14 Days	Control	0	15	ST2F3114 to 3119	ST2F3120 to 3128
3	14 Days	TERTIARY BUTANOL	2 mg/mL	15	ST3F3129 to 3137	ST3F3138 to 3143
4	14 Days		20 mg/mL	15	ST4F3144 to 3149	ST4F3150 to 3158

Note: The missing value corresponds to the animal ST4F3098 that died on Study Day 3 without any significant macroscopic finding. This death was considered not to be treatment-related.

INDIVIDUAL ANIMAL WATER CONSUMED/DAY (G)
Study number: SA 08160
Study start date: 04-Sep-08

Mechanistic study/Exploratory study

DOSAGE IN mg/kg ANIMAL		SEX	DAY OF PHASE 4
			FEMALE ANIMALS
ST1F3039	80.0	F	3.9
ST1F3040			4.1
ST1F3041			3.8
ST1F3042			3.8
ST1F3043			4.2
ST1F3044			3.6
ST1F3045			1.3
ST1F3046			3.4
ST1F3047			3.4
ST1F3048			4.4
ST1F3049			3.0
ST1F3050			3.9
ST1F3051			3.0
ST1F3052			3.9
ST1F3053			3.0
		(n)	15
ST2F3054	0.0	F	3.8
ST2F3055			5.4
ST2F3056			1.9
ST2F3057			4.0
ST2F3058			4.1
ST2F3059			4.0
ST2F3060			3.9
ST2F3061			2.8
ST2F3062			4.7
ST2F3063			4.2
ST2F3064			4.7
ST2F3065			4.8
ST2F3066			3.1
ST2F3067			3.9
ST2F3068			5.0
		(n)	15
ST3F3069	0.0	F	5.7
ST3F3070			2.8
ST3F3071			0.3
ST3F3072			4.3
ST3F3073			1.0
ST3F3074			3.9

NOTE: DATA FOR Dosing phase 1

DOSAGE IN mg/kg ANIMAL		SEX	DAY OF PHASE 4
			FEMALE ANIMALS
ST3F3075	0.0	F	4.4
ST3F3076			4.0
ST3F3077			4.3
ST3F3078			5.1
ST3F3079			4.8
ST3F3080			4.6
ST3F3081			2.2
ST3F3082			5.1
ST3F3083			4.6
		(n)	15
ST4F3084	0.0	F	1.3
ST4F3085			1.1
ST4F3086			0.9
ST4F3087			0.6
ST4F3088			1.0
ST4F3089			1.0
ST4F3090			0.5
ST4F3091			0.3
ST4F3092			0.3
ST4F3093			0.4
ST4F3094			2.8
ST4F3095			0.3
ST4F3096			0.6
ST4F3097			1.0
		(n)	14

NOTE: DATA FOR Dosing phase 1

App. F2 **Individual water consumption - 14 Days**

GROUP	DURATION OF EXPOSURE	TEST SUBSTANCE	DOSE LEVELS	NUMBER OF ANIMALS PER GROUP	ANIMAL IDENTITY	
FEMALES					SG1 (Sept. 04, 2008)	SG2 (Sept. 05, 2008)
1	3 Days	Phenobarbital	80 mg/kg/day	15	ST1F3039 to 3047	ST1F3048 to 3053
2	3 Days	Control	0	15	ST2F3054 to 3059	ST2F3060 to 3068
3	3 Days	TERTIARY BUTANOL	2 mg/mL	15	ST3F3069 to 3077	ST3F3078 to 3083
4	3 Days		20 mg/mL	15	ST4F3084 to 3089	ST4F3090 to 3098
FEMALES					SG1 (Sept. 03, 2008)	SG2 (Sept. 04, 2008)
1	14 Days	Phenobarbital	80 mg/kg/day	15	ST1F3099 to 3107	ST1F3108 to 3113
2	14 Days	Control	0	15	ST2F3114 to 3119	ST2F3120 to 3128
3	14 Days	TERTIARY BUTANOL	2 mg/mL	15	ST3F3129 to 3137	ST3F3138 to 3143
4	14 Days		20 mg/mL	15	ST4F3144 to 3149	ST4F3150 to 3158

Bayer CropScience
Center of Toxicology
Sophia-Antipolis
Mouse/B6C3F1

INDIVIDUAL ANIMAL WATER CONSUMED/DAY (G)
Study number: SA-08160
Study start date: 03-Sep-08

Printed: 27-Nov-08
Page: 1
Mechanistic study/Exploratory study

DOSAGE IN mg/kg ANIMAL		SEX	DAY OF PHASE 8	DAY OF PHASE 15
			FEMALE ANIMALS	
ST1F3099	80.0	F	4.9	5.5
ST1F3100			4.0	4.8
ST1F3101			3.8	4.1
ST1F3102			4.5	4.5
ST1F3103			3.3	5.1
ST1F3104			3.9	4.6
ST1F3105			3.6	4.9
ST1F3106			0.5	0.6
ST1F3107			3.7	4.8
ST1F3108			3.1	4.4
ST1F3109			4.4	4.0
ST1F3110			2.6	3.2
ST1F3111			4.4	4.5
ST1F3112			3.5	4.4
ST1F3113			4.1	4.8
		(n)	15	15
ST2F3114	0.0	F	4.8	4.3
ST2F3115			3.2	5.5
ST2F3116			3.7	5.1
ST2F3117			4.1	5.6
ST2F3118			5.9	5.7
ST2F3119			5.4	5.6
ST2F3120			4.1	6.2
ST2F3121			4.0	4.5
ST2F3122			4.3	3.9
ST2F3123			6.1	5.2
ST2F3124			5.8	4.6
ST2F3125			4.5	4.1
ST2F3126			6.1	5.8
ST2F3127			4.7	5.6
ST2F3128			5.0	4.6
		(n)	15	15
ST3F3129	0.0	F	4.4	4.9
ST3F3130			4.4	5.4
ST3F3131			5.3	4.8
ST3F3132			3.4	3.4
ST3F3133			4.6	4.3
ST3F3134			4.9	6.0

NOTE: DATA FOR Dosing phase 1

DOSAGE IN mg/kg ANIMAL		SEX	DAY OF PHASE 8	15
			FEMALE ANIMALS	
ST3F3135	0.0	F	1.0	5.3
ST3F3136			1.0	3.1
ST3F3137			2.4	2.2
ST3F3138			5.2	7.0
ST3F3139			4.4	5.4
ST3F3140			4.5	4.8
ST3F3141			5.0	5.2
ST3F3142			4.0	1.7
ST3F3143			11.0	4.7
		(n)	15	15
ST4F3144	0.0	F	2.8	3.1
ST4F3145			1.9	3.3
ST4F3146			1.7	1.0
ST4F3147			0.8	0.7
ST4F3148			0.3	0.6
ST4F3149			1.7	3.1
ST4F3150			2.4	2.3
ST4F3151			0.8	1.3
ST4F3152			2.1	1.0
ST4F3153			1.3	0.4
ST4F3154			1.9	3.0
ST4F3155			2.1	2.8
ST4F3156			2.5	3.0
ST4F3157			0.9	0.2
ST4F3158			1.8	0.5
		(n)	15	15

NOTE: DATA FOR Dosing phase 1

APPENDIX G - **INDIVIDUAL HORMONE LEVELS**

App. G1 **Individual hormone levels - 3 Days**

App. G1a **T3**
App. G1b **T4**
App. G1c **TSH**

App. G2 **Individual hormone levels - 14 Days**

App. G2a **T3**
App. G2b **T4**
App. G2c **TSH**

App. G1a **Individual hormone levels - 3 Days - T3**

GROUP	DURATION OF EXPOSURE	TEST SUBSTANCE	DOSE LEVELS	NUMBER OF ANIMALS PER GROUP	ANIMAL IDENTITY	
FEMALES					SG1 (Sept. 04, 2008)	SG2 (Sept. 05, 2008)
1	3 Days	Phenobarbital	80 mg/kg/day	15	ST1F3039 to 3047	ST1F3048 to 3053
2	3 Days	Control	0	15	ST2F3054 to 3059	ST2F3060 to 3068
3	3 Days	TERTIARY BUTANOL	2 mg/mL	15	ST3F3069 to 3077	ST3F3078 to 3083
4	3 Days		20 mg/mL	15	ST4F3084 to 3089	ST4F3090 to 3098
FEMALES					SG1 (Sept. 03, 2008)	SG2 (Sept. 04, 2008)
1	14 Days	Phenobarbital	80 mg/kg/day	15	ST1F3099 to 3107	ST1F3108 to 3113
2	14 Days	Control	0	15	ST2F3114 to 3119	ST2F3120 to 3128
3	14 Days	TERTIARY BUTANOL	2 mg/mL	15	ST3F3129 to 3137	ST3F3138 to 3143
4	14 Days		20 mg/mL	15	ST4F3144 to 3149	ST4F3150 to 3158

Notes:

- One missing value corresponds to the animal ST4F3098 that died on Study Day 3 without any significant macroscopic finding. This death was considered not to be treatment-related.

- Due to a limited volume of blood collected some hormone levels were not measured for some animals. The following order of priority was given by the Sponsor: T4 first, then TSH and then T3 if possible.

ANIMAL NUMBER	SEX	GROUP/ SUBGROUP	DAY OF PHASE	T3 nmol/l
ST1F3039	F	1/1	5	1.81
ST1F3040	F	1/1	5	
ST1F3041	F	1/1	5	1.78
ST1F3042	F	1/1	5	2.43
ST1F3043	F	1/1	5	1.97
ST1F3044	F	1/1	5	2.12
ST1F3045	F	1/1	5	
ST1F3046	F	1/1	5	1.70
ST1F3047	F	1/1	5	1.89
ST1F3048	F	1/1	5	1.73
ST1F3049	F	1/1	5	1.85
ST1F3050	F	1/1	5	1.99
ST1F3051	F	1/1	5	1.73
ST1F3052	F	1/1	5	
ST1F3053	F	1/1	5	1.77
ST2F3054	F	2/1	5	2.18
ST2F3055	F	2/1	5	2.27
ST2F3056	F	2/1	5	2.14
ST2F3057	F	2/1	5	2.71
ST2F3058	F	2/1	5	2.32
ST2F3059	F	2/1	5	2.37
ST2F3060	F	2/1	5	2.35
ST2F3061	F	2/1	5	2.00
ST2F3062	F	2/1	5	1.92
ST2F3063	F	2/1	5	2.21
ST2F3064	F	2/1	5	1.74
ST2F3065	F	2/1	5	2.11
ST2F3066	F	2/1	5	1.96
ST2F3067	F	2/1	5	2.16
ST2F3068	F	2/1	5	
ST3F3069	F	3/1	5	2.40
ST3F3070	F	3/1	5	1.78
ST3F3071	F	3/1	5	1.84
ST3F3072	F	3/1	5	1.45
ST3F3073	F	3/1	5	2.35
ST3F3074	F	3/1	5	1.88
ST3F3075	F	3/1	5	2.36
ST3F3076	F	3/1	5	2.19
ST3F3077	F	3/1	5	2.09
ST3F3078	F	3/1	5	2.05

ANIMAL NUMBER	SEX	GROUP/ SUBGROUP	DAY OF PHASE	T3 nmol/l
ST3F3079	F	3/1	5	1.74
ST3F3080	F	3/1	5	1.94
ST3F3081	F	3/1	5	2.16
ST3F3082	F	3/1	5	
ST3F3083	F	3/1	5	1.99
ST4F3084	F	4/1	5	1.77
ST4F3085	F	4/1	5	1.83
ST4F3086	F	4/1	5	2.67
ST4F3087	F	4/1	5	2.37
ST4F3088	F	4/1	5	
ST4F3089	F	4/1	5	2.05
ST4F3090	F	4/1	5	2.25
ST4F3091	F	4/1	5	1.29
ST4F3092	F	4/1	5	2.36
ST4F3093	F	4/1	5	
ST4F3094	F	4/1	5	
ST4F3095	F	4/1	5	2.39
ST4F3096	F	4/1	5	2.04
ST4F3097	F	4/1	5	2.48
ST4F3098	F	4/1	5	

App. G1b **Individual hormone levels - 3 Days - T4**

GROUP	DURATION OF EXPOSURE	TEST SUBSTANCE	DOSE LEVELS	NUMBER OF ANIMALS PER GROUP	ANIMAL IDENTITY	
FEMALES					SG1 (Sept. 04, 2008)	SG2 (Sept. 05, 2008)
1	3 Days	Phenobarbital	80 mg/kg/day	15	ST1F3039 to 3047	ST1F3048 to 3053
2	3 Days	Control	0	15	ST2F3054 to 3059	ST2F3060 to 3068
3	3 Days	TERTIARY BUTANOL	2 mg/mL	15	ST3F3069 to 3077	ST3F3078 to 3083
4	3 Days		20 mg/mL	15	ST4F3084 to 3089	ST4F3090 to 3098
FEMALES					SG1 (Sept. 03, 2008)	SG2 (Sept. 04, 2008)
1	14 Days	Phenobarbital	80 mg/kg/day	15	ST1F3099 to 3107	ST1F3108 to 3113
2	14 Days	Control	0	15	ST2F3114 to 3119	ST2F3120 to 3128
3	14 Days	TERTIARY BUTANOL	2 mg/mL	15	ST3F3129 to 3137	ST3F3138 to 3143
4	14 Days		20 mg/mL	15	ST4F3144 to 3149	ST4F3150 to 3158

Notes:

- One missing value corresponds to the animal ST4F3098 that died on Study Day 3 without any significant macroscopic finding. This death was considered not to be treatment-related.

- Due to a limited volume of blood collected some hormone levels were not measured for some animals. The following order of priority was given by the Sponsor: T4 first, then TSH and then T3 if possible.

ANIMAL NUMBER	SEX	GROUP/ SUBGROUP	DAY OF PHASE	T4 nmol/l
ST1F3039	F	1/1	5	26.0
ST1F3040	F	1/1	5	26.0
ST1F3041	F	1/1	5	23.0
ST1F3042	F	1/1	5	22.0
ST1F3043	F	1/1	5	30.0
ST1F3044	F	1/1	5	21.0
ST1F3045	F	1/1	5	37.0
ST1F3046	F	1/1	5	23.0
ST1F3047	F	1/1	5	30.0
ST1F3048	F	1/1	5	30.0
ST1F3049	F	1/1	5	31.0
ST1F3050	F	1/1	5	46.0
ST1F3051	F	1/1	5	33.0
ST1F3052	F	1/1	5	20.0
ST1F3053	F	1/1	5	33.0
ST2F3054	F	2/1	5	46.0
ST2F3055	F	2/1	5	51.0
ST2F3056	F	2/1	5	38.0
ST2F3057	F	2/1	5	49.0
ST2F3058	F	2/1	5	29.0
ST2F3059	F	2/1	5	49.0
ST2F3060	F	2/1	5	32.0
ST2F3061	F	2/1	5	54.0
ST2F3062	F	2/1	5	46.0
ST2F3063	F	2/1	5	42.0
ST2F3064	F	2/1	5	37.0
ST2F3065	F	2/1	5	44.0
ST2F3066	F	2/1	5	57.0
ST2F3067	F	2/1	5	40.0
ST2F3068	F	2/1	5	37.0
ST3F3069	F	3/1	5	49.0
ST3F3070	F	3/1	5	35.0
ST3F3071	F	3/1	5	39.0
ST3F3072	F	3/1	5	46.0
ST3F3073	F	3/1	5	48.0
ST3F3074	F	3/1	5	37.0
ST3F3075	F	3/1	5	52.0
ST3F3076	F	3/1	5	52.0
ST3F3077	F	3/1	5	36.0
ST3F3078	F	3/1	5	51.0

ANIMAL NUMBER	SEX	GROUP/ SUBGROUP	DAY OF PHASE	T4 nmol/l
ST3F3079	F	3/1	5	43.0
ST3F3080	F	3/1	5	50.0
ST3F3081	F	3/1	5	51.0
ST3F3082	F	3/1	5	36.0
ST3F3083	F	3/1	5	48.0
ST4F3084	F	4/1	5	41.0
ST4F3085	F	4/1	5	47.0
ST4F3086	F	4/1	5	50.0
ST4F3087	F	4/1	5	49.0
ST4F3088	F	4/1	5	
ST4F3089	F	4/1	5	43.0
ST4F3090	F	4/1	5	39.0
ST4F3091	F	4/1	5	57.0
ST4F3092	F	4/1	5	42.0
ST4F3093	F	4/1	5	
ST4F3094	F	4/1	5	35.0
ST4F3095	F	4/1	5	31.0
ST4F3096	F	4/1	5	41.0
ST4F3097	F	4/1	5	53.0
ST4F3098	F	4/1	5	

App. G1c **Individual hormone levels - 3 Days - TSH**

GROUP	DURATION OF EXPOSURE	TEST SUBSTANCE	DOSE LEVELS	NUMBER OF ANIMALS PER GROUP	ANIMAL IDENTITY	
FEMALES					SG1 (Sept. 04, 2008)	SG2 (Sept. 05, 2008)
1	3 Days	Phenobarbital	80 mg/kg/day	15	ST1F3039 to 3047	ST1F3048 to 3053
2	3 Days	Control	0	15	ST2F3054 to 3059	ST2F3060 to 3068
3	3 Days	TERTIARY BUTANOL	2 mg/mL	15	ST3F3069 to 3077	ST3F3078 to 3083
4	3 Days		20 mg/mL	15	ST4F3084 to 3089	ST4F3090 to 3098
FEMALES					SG1 (Sept. 03, 2008)	SG2 (Sept. 04, 2008)
1	14 Days	Phenobarbital	80 mg/kg/day	15	ST1F3099 to 3107	ST1F3108 to 3113
2	14 Days	Control	0	15	ST2F3114 to 3119	ST2F3120 to 3128
3	14 Days	TERTIARY BUTANOL	2 mg/mL	15	ST3F3129 to 3137	ST3F3138 to 3143
4	14 Days		20 mg/mL	15	ST4F3144 to 3149	ST4F3150 to 3158

Notes:

- One missing value corresponds to the animal ST4F3098 that died on Study Day 3 without any significant macroscopic finding. This death was considered not to be treatment-related.

- Due to a limited volume of blood collected some hormone levels were not measured for some animals. The following order of priority was given by the Sponsor: T4 first, then TSH and then T3 if possible.

Bayer CropScience
Center of Toxicology
Sophia-Antipolis
Mouse/B6C3F1

SUMMARY STATISTICAL REPORTS FOR TSH dosage
Study number: SA 08160
DATA FOR SCHEDULED DATE: 08-Sep-08 SESSION: 1
Study start date: 04-Sep-08

Printed: 19-Nov-08
Page: 1
Dosing phase 1
Mechanistic study/Exploratory study

ANIMAL NUMBER	SEX	GROUP/ SUBGROUP	DAY OF PHASE	TSH ng/ml
ST1F3039	F	1/1	5	3.00
ST1F3040	F	1/1	5	2.40
ST1F3041	F	1/1	5	2.50
ST1F3042	F	1/1	5	1.90
ST1F3043	F	1/1	5	2.00
ST1F3044	F	1/1	5	1.90
ST1F3045	F	1/1	5	2.00
ST1F3046	F	1/1	5	1.90
ST1F3047	F	1/1	5	2.10
ST1F3048	F	1/1	5	2.50
ST1F3049	F	1/1	5	2.60
ST1F3050	F	1/1	5	2.20
ST1F3051	F	1/1	5	2.60
ST1F3052	F	1/1	5	2.30
ST1F3053	F	1/1	5	1.60
ST2F3054	F	2/1	5	2.60
ST2F3055	F	2/1	5	1.90
ST2F3056	F	2/1	5	1.50
ST2F3057	F	2/1	5	1.70
ST2F3058	F	2/1	5	1.60
ST2F3059	F	2/1	5	1.70
ST2F3060	F	2/1	5	2.60
ST2F3061	F	2/1	5	3.00
ST2F3062	F	2/1	5	2.80
ST2F3063	F	2/1	5	1.60
ST2F3064	F	2/1	5	2.20
ST2F3065	F	2/1	5	1.80
ST2F3066	F	2/1	5	1.30
ST2F3067	F	2/1	5	1.70
ST2F3068	F	2/1	5	
ST3F3069	F	3/1	5	2.00
ST3F3070	F	3/1	5	2.20
ST3F3071	F	3/1	5	2.40
ST3F3072	F	3/1	5	1.80
ST3F3073	F	3/1	5	1.40
ST3F3074	F	3/1	5	1.80
ST3F3075	F	3/1	5	2.40
ST3F3076	F	3/1	5	1.60
ST3F3077	F	3/1	5	2.20
ST3F3078	F	3/1	5	3.20

ANIMAL NUMBER	SEX	GROUP/ SUBGROUP	DAY OF PHASE	TSH ng/ml
ST3F3079	F	3/1	5	1.70
ST3F3080	F	3/1	5	1.70
ST3F3081	F	3/1	5	1.70
ST3F3082	F	3/1	5	1.20
ST3F3083	F	3/1	5	2.00
ST4F3084	F	4/1	5	2.90
ST4F3085	F	4/1	5	2.60
ST4F3086	F	4/1	5	2.60
ST4F3087	F	4/1	5	1.70
ST4F3088	F	4/1	5	
ST4F3089	F	4/1	5	2.20
ST4F3090	F	4/1	5	3.10
ST4F3091	F	4/1	5	3.30
ST4F3092	F	4/1	5	1.50
ST4F3093	F	4/1	5	
ST4F3094	F	4/1	5	
ST4F3095	F	4/1	5	2.10
ST4F3096	F	4/1	5	1.80
ST4F3097	F	4/1	5	2.00
ST4F3098	F	4/1	5	

App. G2a **Individual hormone levels - 14 Days - T3**

GROUP	DURATION OF EXPOSURE	TEST SUBSTANCE	DOSE LEVELS	NUMBER OF ANIMALS PER GROUP	ANIMAL IDENTITY	
FEMALES					SG1 (Sept. 04, 2008)	SG2 (Sept. 05, 2008)
1	3 Days	Phenobarbital	80 mg/kg/day	15	ST1F3039 to 3047	ST1F3048 to 3053
2	3 Days	Control	0	15	ST2F3054 to 3059	ST2F3060 to 3068
3	3 Days	TERTIARY BUTANOL	2 mg/mL	15	ST3F3069 to 3077	ST3F3078 to 3083
4	3 Days		20 mg/mL	15	ST4F3084 to 3089	ST4F3090 to 3098
FEMALES					SG1 (Sept. 03, 2008)	SG2 (Sept. 04, 2008)
1	14 Days	Phenobarbital	80 mg/kg/day	15	ST1F3099 to 3107	ST1F3108 to 3113
2	14 Days	Control	0	15	ST2F3114 to 3119	ST2F3120 to 3128
3	14 Days	TERTIARY BUTANOL	2 mg/mL	15	ST3F3129 to 3137	ST3F3138 to 3143
4	14 Days		20 mg/mL	15	ST4F3144 to 3149	ST4F3150 to 3158

Note: Due to a limited volume of blood collected some hormone levels were not measured for some animals. The following order of priority was given by the Sponsor: T4 first, then TSH and then T3 if possible.

SUMMARY STATISTICAL REPORTS FOR T3 dosage
Study number: SA-08160
DATA FOR SCHEDULED DATE: 18-Sep-08 SESSION: 1
Study start date: 03-Sep-08

Dosing phase 1
Mechanistic study/Exploratory study

ANIMAL NUMBER	SEX	GROUP/ SUBGROUP	DAY OF PHASE	T3 nmol/l
ST1F3099	F	1/1	16	2.28
ST1F3100	F	1/1	16	2.04
ST1F3101	F	1/1	16	2.10
ST1F3102	F	1/1	16	2.32
ST1F3103	F	1/1	16	2.18
ST1F3104	F	1/1	16	2.10
ST1F3105	F	1/1	16	1.60
ST1F3106	F	1/1	16	1.91
ST1F3107	F	1/1	16	
ST1F3108	F	1/1	16	2.12
ST1F3109	F	1/1	16	1.83
ST1F3110	F	1/1	16	1.95
ST1F3111	F	1/1	16	2.12
ST1F3112	F	1/1	16	1.82
ST1F3113	F	1/1	16	1.81
ST2F3114	F	2/1	16	2.57
ST2F3115	F	2/1	16	2.52
ST2F3116	F	2/1	16	2.69
ST2F3117	F	2/1	16	2.77
ST2F3118	F	2/1	16	2.96
ST2F3119	F	2/1	16	2.65
ST2F3120	F	2/1	16	2.64
ST2F3121	F	2/1	16	2.72
ST2F3122	F	2/1	16	2.15
ST2F3123	F	2/1	16	2.35
ST2F3124	F	2/1	16	2.38
ST2F3125	F	2/1	16	2.64
ST2F3126	F	2/1	16	2.41
ST2F3127	F	2/1	16	2.22
ST2F3128	F	2/1	16	2.34
ST3F3129	F	3/1	16	2.28
ST3F3130	F	3/1	16	2.19
ST3F3131	F	3/1	16	2.56
ST3F3132	F	3/1	16	1.93
ST3F3133	F	3/1	16	2.20
ST3F3134	F	3/1	16	2.30
ST3F3135	F	3/1	16	2.48
ST3F3136	F	3/1	16	2.04
ST3F3137	F	3/1	16	2.44
ST3F3138	F	3/1	16	2.14

ANIMAL NUMBER	SEX	GROUP/ SUBGROUP	DAY OF PHASE	T3 nmol/l
ST3F3139	F	3/1	16	2.27
ST3F3140	F	3/1	16	2.02
ST3F3141	F	3/1	16	2.06
ST3F3142	F	3/1	16	2.36
ST3F3143	F	3/1	16	1.99
ST4F3144	F	4/1	16	2.31
ST4F3145	F	4/1	16	2.01
ST4F3146	F	4/1	16	2.42
ST4F3147	F	4/1	16	2.25
ST4F3148	F	4/1	16	
ST4F3149	F	4/1	16	2.23
ST4F3150	F	4/1	16	1.95
ST4F3151	F	4/1	16	1.80
ST4F3152	F	4/1	16	2.14
ST4F3153	F	4/1	16	2.37
ST4F3154	F	4/1	16	2.43
ST4F3155	F	4/1	16	2.15
ST4F3156	F	4/1	16	2.33
ST4F3157	F	4/1	16	
ST4F3158	F	4/1	16	2.20

App. G2b **Individual hormone levels - 14 Days - T4**

GROUP	DURATION OF EXPOSURE	TEST SUBSTANCE	DOSE LEVELS	NUMBER OF ANIMALS PER GROUP	ANIMAL IDENTITY	
FEMALES					SG1 (Sept. 04, 2008)	SG2 (Sept. 05, 2008)
1	3 Days	Phenobarbital	80 mg/kg/day	15	ST1F3039 to 3047	ST1F3048 to 3053
2	3 Days	Control	0	15	ST2F3054 to 3059	ST2F3060 to 3068
3	3 Days	TERTIARY BUTANOL	2 mg/mL	15	ST3F3069 to 3077	ST3F3078 to 3083
4	3 Days		20 mg/mL	15	ST4F3084 to 3089	ST4F3090 to 3098
FEMALES					SG1 (Sept. 03, 2008)	SG2 (Sept. 04, 2008)
1	14 Days	Phenobarbital	80 mg/kg/day	15	ST1F3099 to 3107	ST1F3108 to 3113
2	14 Days	Control	0	15	ST2F3114 to 3119	ST2F3120 to 3128
3	14 Days	TERTIARY BUTANOL	2 mg/mL	15	ST3F3129 to 3137	ST3F3138 to 3143
4	14 Days		20 mg/mL	15	ST4F3144 to 3149	ST4F3150 to 3158

SUMMARY STATISTICAL REPORTS FOR T4 dosage
Study number: SA-08160
DATA FOR SCHEDULED DATE: 18-Sep-08 SESSION: 1
Study start date: 03-Sep-08

Dosing phase 1
Mechanistic study/Exploratory study

ANIMAL NUMBER	SEX	GROUP/ SUBGROUP	DAY OF PHASE	T4 nmol/l
ST1F3099	F	1/1	16	30.0
ST1F3100	F	1/1	16	37.0
ST1F3101	F	1/1	16	24.0
ST1F3102	F	1/1	16	34.0
ST1F3103	F	1/1	16	22.0
ST1F3104	F	1/1	16	25.0
ST1F3105	F	1/1	16	37.0
ST1F3106	F	1/1	16	34.0
ST1F3107	F	1/1	16	30.0
ST1F3108	F	1/1	16	38.0
ST1F3109	F	1/1	16	33.0
ST1F3110	F	1/1	16	30.0
ST1F3111	F	1/1	16	35.0
ST1F3112	F	1/1	16	28.0
ST1F3113	F	1/1	16	28.0
ST2F3114	F	2/1	16	68.0
ST2F3115	F	2/1	16	54.0
ST2F3116	F	2/1	16	58.0
ST2F3117	F	2/1	16	54.0
ST2F3118	F	2/1	16	81.0
ST2F3119	F	2/1	16	57.0
ST2F3120	F	2/1	16	60.0
ST2F3121	F	2/1	16	54.0
ST2F3122	F	2/1	16	54.0
ST2F3123	F	2/1	16	62.0
ST2F3124	F	2/1	16	52.0
ST2F3125	F	2/1	16	68.0
ST2F3126	F	2/1	16	51.0
ST2F3127	F	2/1	16	60.0
ST2F3128	F	2/1	16	62.0
ST3F3129	F	3/1	16	44.0
ST3F3130	F	3/1	16	46.0
ST3F3131	F	3/1	16	48.0
ST3F3132	F	3/1	16	36.0
ST3F3133	F	3/1	16	48.0
ST3F3134	F	3/1	16	48.0
ST3F3135	F	3/1	16	67.0
ST3F3136	F	3/1	16	46.0
ST3F3137	F	3/1	16	41.0
ST3F3138	F	3/1	16	59.0

ANIMAL NUMBER	SEX	GROUP/ SUBGROUP	DAY OF PHASE	T4 nmol/l
ST3F3139	F	3/1	16	61.0
ST3F3140	F	3/1	16	51.0
ST3F3141	F	3/1	16	43.0
ST3F3142	F	3/1	16	59.0
ST3F3143	F	3/1	16	65.0
ST4F3144	F	4/1	16	39.0
ST4F3145	F	4/1	16	51.0
ST4F3146	F	4/1	16	52.0
ST4F3147	F	4/1	16	44.0
ST4F3148	F	4/1	16	45.0
ST4F3149	F	4/1	16	31.0
ST4F3150	F	4/1	16	48.0
ST4F3151	F	4/1	16	45.0
ST4F3152	F	4/1	16	76.0
ST4F3153	F	4/1	16	45.0
ST4F3154	F	4/1	16	44.0
ST4F3155	F	4/1	16	43.0
ST4F3156	F	4/1	16	50.0
ST4F3157	F	4/1	16	39.0
ST4F3158	F	4/1	16	49.0

App. G2c **Individual hormone levels - 14 Days - TSH**

GROUP	DURATION OF EXPOSURE	TEST SUBSTANCE	DOSE LEVELS	NUMBER OF ANIMALS PER GROUP	ANIMAL IDENTITY	
FEMALES					SG1 (Sept. 04, 2008)	SG2 (Sept. 05, 2008)
1	3 Days	Phenobarbital	80 mg/kg/day	15	ST1F3039 to 3047	ST1F3048 to 3053
2	3 Days	Control	0	15	ST2F3054 to 3059	ST2F3060 to 3068
3	3 Days	TERTIARY BUTANOL	2 mg/mL	15	ST3F3069 to 3077	ST3F3078 to 3083
4	3 Days		20 mg/mL	15	ST4F3084 to 3089	ST4F3090 to 3098
FEMALES					SG1 (Sept. 03, 2008)	SG2 (Sept. 04, 2008)
1	14 Days	Phenobarbital	80 mg/kg/day	15	ST1F3099 to 3107	ST1F3108 to 3113
2	14 Days	Control	0	15	ST2F3114 to 3119	ST2F3120 to 3128
3	14 Days	TERTIARY BUTANOL	2 mg/mL	15	ST3F3129 to 3137	ST3F3138 to 3143
4	14 Days		20 mg/mL	15	ST4F3144 to 3149	ST4F3150 to 3158

Note: Due to a limited volume of blood collected some hormone levels were not measured for some animals. The following order of priority was given by the Sponsor: T4 first, then TSH and then T3 if possible.

ANIMAL NUMBER	SEX	GROUP/ SUBGROUP	DAY OF PHASE	TSH ng/ml
ST1F3099	F	1/1	16	2.00
ST1F3100	F	1/1	16	2.40
ST1F3101	F	1/1	16	2.60
ST1F3102	F	1/1	16	1.60
ST1F3103	F	1/1	16	2.20
ST1F3104	F	1/1	16	1.90
ST1F3105	F	1/1	16	2.50
ST1F3106	F	1/1	16	2.10
ST1F3107	F	1/1	16	
ST1F3108	F	1/1	16	2.20
ST1F3109	F	1/1	16	2.30
ST1F3110	F	1/1	16	2.30
ST1F3111	F	1/1	16	1.80
ST1F3112	F	1/1	16	1.90
ST1F3113	F	1/1	16	2.10
ST2F3114	F	2/1	16	2.80
ST2F3115	F	2/1	16	2.20
ST2F3116	F	2/1	16	1.80
ST2F3117	F	2/1	16	1.70
ST2F3118	F	2/1	16	2.10
ST2F3119	F	2/1	16	1.80
ST2F3120	F	2/1	16	2.30
ST2F3121	F	2/1	16	3.10
ST2F3122	F	2/1	16	2.80
ST2F3123	F	2/1	16	2.10
ST2F3124	F	2/1	16	2.50
ST2F3125	F	2/1	16	1.90
ST2F3126	F	2/1	16	1.70
ST2F3127	F	2/1	16	1.90
ST2F3128	F	2/1	16	2.40
ST3F3129	F	3/1	16	2.60
ST3F3130	F	3/1	16	2.30
ST3F3131	F	3/1	16	3.30
ST3F3132	F	3/1	16	2.10
ST3F3133	F	3/1	16	1.60
ST3F3134	F	3/1	16	1.40
ST3F3135	F	3/1	16	1.90
ST3F3136	F	3/1	16	1.60
ST3F3137	F	3/1	16	1.90
ST3F3138	F	3/1	16	4.20

ANIMAL NUMBER	SEX	GROUP/ SUBGROUP	DAY OF PHASE	TSH ng/ml
ST3F3139	F	3/1	16	2.80
ST3F3140	F	3/1	16	2.40
ST3F3141	F	3/1	16	1.70
ST3F3142	F	3/1	16	3.00
ST3F3143	F	3/1	16	2.20
ST4F3144	F	4/1	16	3.00
ST4F3145	F	4/1	16	2.00
ST4F3146	F	4/1	16	1.40
ST4F3147	F	4/1	16	2.00
ST4F3148	F	4/1	16	
ST4F3149	F	4/1	16	1.80
ST4F3150	F	4/1	16	2.60
ST4F3151	F	4/1	16	2.80
ST4F3152	F	4/1	16	3.10
ST4F3153	F	4/1	16	1.60
ST4F3154	F	4/1	16	2.20
ST4F3155	F	4/1	16	1.80
ST4F3156	F	4/1	16	1.80
ST4F3157	F	4/1	16	
ST4F3158	F	4/1	16	2.10

APPENDIX H - INDIVIDUAL ABSOLUTE ORGAN WEIGHTS WITH TERMINAL BODY WEIGHTS

App. H1 **Individual absolute organ weights with terminal body weights - 3 Days**

App. H2 **Individual absolute organ weights with terminal body weights - 14 Days**

App. H1 **Individual absolute organ weights with terminal body weights - 3 Days**

GROUP	DURATION OF EXPOSURE	TEST SUBSTANCE	DOSE LEVELS	NUMBER OF ANIMALS PER GROUP	ANIMAL IDENTITY	
FEMALES					SG1 (Sept. 04, 2008)	SG2 (Sept. 05, 2008)
1	3 Days	Phenobarbital	80 mg/kg/day	15	ST1F3039 to 3047	ST1F3048 to 3053
2	3 Days	Control	0	15	ST2F3054 to 3059	ST2F3060 to 3068
3	3 Days	TERTIARY BUTANOL	2 mg/mL	15	ST3F3069 to 3077	ST3F3078 to 3083
4	3 Days		20 mg/mL	15	ST4F3084 to 3089	ST4F3090 to 3098
FEMALES					SG1 (Sept. 03, 2008)	SG2 (Sept. 04, 2008)
1	14 Days	Phenobarbital	80 mg/kg/day	15	ST1F3099 to 3107	ST1F3108 to 3113
2	14 Days	Control	0	15	ST2F3114 to 3119	ST2F3120 to 3128
3	14 Days	TERTIARY BUTANOL	2 mg/mL	15	ST3F3129 to 3137	ST3F3138 to 3143
4	14 Days		20 mg/mL	15	ST4F3144 to 3149	ST4F3150 to 3158

Notes:

- One missing value corresponds to the animal ST4F3098 that died on Study Day 3 without any significant macroscopic finding. This death was considered not to be treatment-related.
- There is no reason given for the other missing value (mean calculated with 14 values in the corresponding group). The liver of the corresponding animal was sampled and examined.

Bayer CropScience
Center of Toxicology
Sophia-Antipolis
Mouse/B6C3F1

Individual Absolute Organ Weights (g)
Study number: SA 08160
Scheduled Sacrifices FS
Study start date: 04-Sep-08

Printed: 10-Sep-08
Page: 1
Mechanistic study/Exploratory study

Animal No/sex	Dose mg/kg	Terminal Body wt. (g)	LIVER	BRAIN
				Female Animals
ST1F3039/F	80.0	21.7	1.27	0.51
ST1F3040/F	80.0	21.8	1.20	0.49
ST1F3041/F	80.0	21.2	1.13	0.51
ST1F3042/F	80.0	23.2	1.42	0.51
ST1F3043/F	80.0	21.8	1.24	0.48
ST1F3044/F	80.0	22.7	1.00	0.49
ST1F3045/F	80.0	21.8	MISSING	0.51
ST1F3046/F	80.0	19.4	1.00	0.47
ST1F3047/F	80.0	21.2	1.23	0.49
ST1F3048/F	80.0	23.2	1.25	0.50
ST1F3049/F	80.0	21.4	1.15	0.49
ST1F3050/F	80.0	22.9	1.31	0.49
ST1F3051/F	80.0	21.7	1.19	0.52
ST1F3052/F	80.0	23.0	1.29	0.48
ST1F3053/F	80.0	21.4	1.21	0.50
Number of observ. :		(15)	(14)	(15)
ST2F3054/F	0.0	22.8	1.08	0.48
ST2F3055/F	0.0	23.3	1.17	0.47
ST2F3056/F	0.0	21.1	1.05	0.49
ST2F3057/F	0.0	22.2	1.14	0.48
ST2F3058/F	0.0	24.4	1.33	0.53
ST2F3059/F	0.0	22.0	0.99	0.48
ST2F3060/F	0.0	24.4	1.34	0.47
ST2F3061/F	0.0	23.0	1.02	0.49
ST2F3062/F	0.0	22.5	0.99	0.55
ST2F3063/F	0.0	19.4	0.87	0.49
ST2F3064/F	0.0	20.9	0.89	0.48
ST2F3065/F	0.0	21.6	0.94	0.50
ST2F3066/F	0.0	21.7	0.95	0.47
ST2F3067/F	0.0	22.7	1.10	0.49
ST2F3068/F	0.0	21.1	1.02	0.49
Number of observ. :		(15)	(15)	(15)
ST3F3069/F	0.0	22.0	1.09	0.49
ST3F3070/F	0.0	23.7	1.16	0.48
ST3F3071/F	0.0	22.6	1.03	0.50
ST3F3072/F	0.0	22.3	0.90	0.48
ST3F3073/F	0.0	23.5	1.17	0.49
ST3F3074/F	0.0	20.7	0.98	0.47
ST3F3075/F	0.0	21.0	1.00	0.46
ST3F3076/F	0.0	21.8	0.91	0.49
ST3F3077/F	0.0	23.7	1.11	0.49
ST3F3078/F	0.0	22.7	1.02	0.50
ST3F3079/F	0.0	21.2	0.96	0.49

Bayer CropScience
Center of Toxicology
Sophia-Antipolis
Mouse/B6C3Fl

Individual Absolute Organ Weights (g)
Study number: SA 08160
Scheduled Sacrifices FS
Study start date: 04-Sep-08

Printed: 10-Sep-08
Page: 2

Mechanistic study/Exploratory study

Animal No/sex	Dose mg/kg	Terminal Body wt. (g)	LIVER	BRAIN
ST3F3080/F	0.0	21.9	1.00	0.49
ST3F3081/F	0.0	21.4	1.04	0.47
ST3F3082/F	0.0	23.1	1.17	0.50
ST3F3083/F	0.0	20.8	1.00	0.46
Number of observ. :		(15)	(15)	(15)
ST4F3084/F	0.0	22.6	0.99	0.47
ST4F3085/F	0.0	23.0	0.98	0.49
ST4F3086/F	0.0	23.4	1.18	0.50
ST4F3087/F	0.0	21.9	1.00	0.48
ST4F3088/F	0.0	22.5	1.16	0.48
ST4F3089/F	0.0	21.9	1.06	0.47
ST4F3090/F	0.0	21.6	1.04	0.48
ST4F3091/F	0.0	20.5	1.01	0.46
ST4F3092/F	0.0	22.1	1.16	0.49
ST4F3093/F	0.0	22.4	1.14	0.48
ST4F3094/F	0.0	21.7	1.02	0.48
ST4F3095/F	0.0	22.9	1.23	0.48
ST4F3096/F	0.0	21.2	1.09	0.45
ST4F3097/F	0.0	23.0	1.11	0.49
Number of observ. :		(14)	(14)	(14)

App. H2 **Individual absolute organ weights with terminal body weights - 14 Days**

GROUP	DURATION OF EXPOSURE	TEST SUBSTANCE	DOSE LEVELS	NUMBER OF ANIMALS PER GROUP	ANIMAL IDENTITY	
FEMALES					SG1 (Sept. 04, 2008)	SG2 (Sept. 05, 2008)
1	3 Days	Phenobarbital	80 mg/kg/day	15	ST1F3039 to 3047	ST1F3048 to 3053
2	3 Days	Control	0	15	ST2F3054 to 3059	ST2F3060 to 3068
3	3 Days	TERTIARY BUTANOL	2 mg/mL	15	ST3F3069 to 3077	ST3F3078 to 3083
4	3 Days		20 mg/mL	15	ST4F3084 to 3089	ST4F3090 to 3098
FEMALES					SG1 (Sept. 03, 2008)	SG2 (Sept. 04, 2008)
1	14 Days	Phenobarbital	80 mg/kg/day	15	ST1F3099 to 3107	ST1F3108 to 3113
2	14 Days	Control	0	15	ST2F3114 to 3119	ST2F3120 to 3128
3	14 Days	TERTIARY BUTANOL	2 mg/mL	15	ST3F3129 to 3137	ST3F3138 to 3143
4	14 Days		20 mg/mL	15	ST4F3144 to 3149	ST4F3150 to 3158

Note: There is no reason given for the missing value (mean calculated with 14 values in the corresponding group). The liver of the corresponding animal was sampled and examined.

Bayer CropScience
Center of Toxicology
Sophia-Antipolis
Mouse/B6C3F1

Individual Absolute Organ Weights (g)
Study number: SA-08160
Scheduled Sacrifices FS
Study start date: 03-Sep-08

Printed: 19-Sep-08
Page: 1
Mechanistic study/Exploratory study

Animal No/sex	Dose mg/kg	Terminal Body wt. (g)	LIVER	BRAIN
				Female Animals
ST1F3099/F	80.0	23.1	1.39	0.48
ST1F3100/F	80.0	22.2	MISSING	0.49
ST1F3101/F	80.0	20.0	1.17	0.49
ST1F3102/F	80.0	21.8	1.30	0.50
ST1F3103/F	80.0	21.2	1.24	0.47
ST1F3104/F	80.0	19.6	1.10	0.48
ST1F3105/F	80.0	22.0	1.28	0.48
ST1F3106/F	80.0	22.1	1.24	0.52
ST1F3107/F	80.0	20.5	1.22	0.46
ST1F3108/F	80.0	19.1	1.04	0.46
ST1F3109/F	80.0	19.7	1.06	0.46
ST1F3110/F	80.0	20.0	1.15	0.43
ST1F3111/F	80.0	22.9	1.31	0.48
ST1F3112/F	80.0	19.8	1.16	0.48
ST1F3113/F	80.0	20.7	1.18	0.49
Number of observ. :		(15)	(14)	(15)
ST2F3114/F	0.0	21.5	0.98	0.47
ST2F3115/F	0.0	22.9	1.15	0.47
ST2F3116/F	0.0	20.9	1.04	0.48
ST2F3117/F	0.0	21.6	1.18	0.49
ST2F3118/F	0.0	21.8	1.04	0.48
ST2F3119/F	0.0	24.2	1.23	0.50
ST2F3120/F	0.0	23.2	1.19	0.47
ST2F3121/F	0.0	21.4	1.09	0.48
ST2F3122/F	0.0	21.6	0.99	0.49
ST2F3123/F	0.0	20.6	0.85	0.46
ST2F3124/F	0.0	19.5	0.86	0.44
ST2F3125/F	0.0	21.8	1.08	0.48
ST2F3126/F	0.0	24.1	1.07	0.48
ST2F3127/F	0.0	22.8	1.09	0.49
ST2F3128/F	0.0	20.9	1.00	0.43
Number of observ. :		(15)	(15)	(15)
ST3F3129/F	0.0	22.2	1.06	0.47
ST3F3130/F	0.0	22.3	1.08	0.51
ST3F3131/F	0.0	22.0	1.08	0.48
ST3F3132/F	0.0	22.4	1.20	0.45
ST3F3133/F	0.0	23.4	1.20	0.50
ST3F3134/F	0.0	22.5	1.10	0.44
ST3F3135/F	0.0	22.5	1.08	0.49
ST3F3136/F	0.0	22.4	1.18	0.48
ST3F3137/F	0.0	21.1	1.06	0.47
ST3F3138/F	0.0	23.1	1.06	0.48
ST3F3139/F	0.0	20.5	0.93	0.48

Animal No/sex	Dose mg/kg	Terminal Body wt. (g)	LIVER	BRAIN
ST3F3140/F	0.0	21.5	1.11	0.48
ST3F3141/F	0.0	21.8	1.15	0.49
ST3F3142/F	0.0	22.8	1.15	0.47
ST3F3143/F	0.0	21.1	0.98	0.48
Number of observ. :		(15)	(15)	(15)
ST4F3144/F	0.0	23.5	1.23	0.47
ST4F3145/F	0.0	21.2	1.01	0.48
ST4F3146/F	0.0	23.4	1.23	0.49
ST4F3147/F	0.0	21.7	1.10	0.47
ST4F3148/F	0.0	23.7	1.19	0.49
ST4F3149/F	0.0	22.0	1.07	0.48
ST4F3150/F	0.0	21.3	1.04	0.46
ST4F3151/F	0.0	22.3	1.12	0.45
ST4F3152/F	0.0	23.3	1.15	0.44
ST4F3153/F	0.0	22.4	1.14	0.49
ST4F3154/F	0.0	21.8	1.05	0.47
ST4F3155/F	0.0	25.1	1.39	0.46
ST4F3156/F	0.0	23.0	1.05	0.50
ST4F3157/F	0.0	21.0	1.05	0.47
ST4F3158/F	0.0	22.1	1.04	0.48
Number of observ. :		(15)	(15)	(15)

APPENDIX I - INDIVIDUAL ORGAN TO BODY WEIGHT RATIOS WITH TERMINAL BODY WEIGHTS

App. I1 **Individual organ to body weight ratios with terminal body weights – 3 Days**

App. I2 **Individual organ to body weight ratios with terminal body weights – 14 Days**

App. I1 **Individual organ to body weight ratios with terminal body weights – 3 Days**

GROUP	DURATION OF EXPOSURE	TEST SUBSTANCE	DOSE LEVELS	NUMBER OF ANIMALS PER GROUP	ANIMAL IDENTITY	
FEMALES					SG1 (Sept. 04, 2008)	SG2 (Sept. 05, 2008)
1	3 Days	Phenobarbital	80 mg/kg/day	15	ST1F3039 to 3047	ST1F3048 to 3053
2	3 Days	Control	0	15	ST2F3054 to 3059	ST2F3060 to 3068
3	3 Days	TERTIARY BUTANOL	2 mg/mL	15	ST3F3069 to 3077	ST3F3078 to 3083
4	3 Days		20 mg/mL	15	ST4F3084 to 3089	ST4F3090 to 3098
FEMALES					SG1 (Sept. 03, 2008)	SG2 (Sept. 04, 2008)
1	14 Days	Phenobarbital	80 mg/kg/day	15	ST1F3099 to 3107	ST1F3108 to 3113
2	14 Days	Control	0	15	ST2F3114 to 3119	ST2F3120 to 3128
3	14 Days	TERTIARY BUTANOL	2 mg/mL	15	ST3F3129 to 3137	ST3F3138 to 3143
4	14 Days		20 mg/mL	15	ST4F3144 to 3149	ST4F3150 to 3158

Notes:

- One missing value corresponds to the animal ST4F3098 that died on Study Day 3 without any significant macroscopic finding. This death was considered not to be treatment-related.
- There is no reason given for the other missing value (mean calculated with 14 values in the corresponding group). The liver of the corresponding animal was sampled and examined.

Animal No/sex	Dose mg/kg	Terminal Body wt. (g)	LIVER	BRAIN
				Female Animals
ST1F3039/F	80.0	21.7	5.85	2.35
ST1F3040/F	80.0	21.8	5.50	2.25
ST1F3041/F	80.0	21.2	5.33	2.41
ST1F3042/F	80.0	23.2	6.12	2.20
ST1F3043/F	80.0	21.8	5.69	2.20
ST1F3044/F	80.0	22.7	4.41	2.16
ST1F3045/F	80.0	21.8	MISSING	2.34
ST1F3046/F	80.0	19.4	5.15	2.42
ST1F3047/F	80.0	21.2	5.80	2.31
ST1F3048/F	80.0	23.2	5.39	2.16
ST1F3049/F	80.0	21.4	5.37	2.29
ST1F3050/F	80.0	22.9	5.72	2.14
ST1F3051/F	80.0	21.7	5.48	2.40
ST1F3052/F	80.0	23.0	5.61	2.09
ST1F3053/F	80.0	21.4	5.65	2.34
Number of observ. :		(15)	(14)	(15)
ST2F3054/F	0.0	22.8	4.74	2.11
ST2F3055/F	0.0	23.3	5.02	2.02
ST2F3056/F	0.0	21.1	4.98	2.32
ST2F3057/F	0.0	22.2	5.14	2.16
ST2F3058/F	0.0	24.4	5.45	2.17
ST2F3059/F	0.0	22.0	4.50	2.18
ST2F3060/F	0.0	24.4	5.49	1.93
ST2F3061/F	0.0	23.0	4.43	2.13
ST2F3062/F	0.0	22.5	4.40	2.44
ST2F3063/F	0.0	19.4	4.48	2.53
ST2F3064/F	0.0	20.9	4.26	2.30
ST2F3065/F	0.0	21.6	4.35	2.31
ST2F3066/F	0.0	21.7	4.38	2.17
ST2F3067/F	0.0	22.7	4.85	2.16
ST2F3068/F	0.0	21.1	4.83	2.32
Number of observ. :		(15)	(15)	(15)
ST3F3069/F	0.0	22.0	4.95	2.23
ST3F3070/F	0.0	23.7	4.89	2.03
ST3F3071/F	0.0	22.6	4.56	2.21
ST3F3072/F	0.0	22.3	4.04	2.15
ST3F3073/F	0.0	23.5	4.98	2.09
ST3F3074/F	0.0	20.7	4.73	2.27
ST3F3075/F	0.0	21.0	4.76	2.19
ST3F3076/F	0.0	21.8	4.17	2.25
ST3F3077/F	0.0	23.7	4.68	2.07
ST3F3078/F	0.0	22.7	4.49	2.20
ST3F3079/F	0.0	21.2	4.53	2.31

Animal No/sex	Dose mg/kg	Terminal Body wt. (g)	LIVER	BRAIN
ST3F3080/F	0.0	21.9	4.57	2.24
ST3F3081/F	0.0	21.4	4.86	2.20
ST3F3082/F	0.0	23.1	5.06	2.16
ST3F3083/F	0.0	20.8	4.81	2.21
Number of observ. :		(15)	(15)	(15)
ST4F3084/F	0.0	22.6	4.38	2.08
ST4F3085/F	0.0	23.0	4.26	2.13
ST4F3086/F	0.0	23.4	5.04	2.14
ST4F3087/F	0.0	21.9	4.57	2.19
ST4F3088/F	0.0	22.5	5.16	2.13
ST4F3089/F	0.0	21.9	4.84	2.15
ST4F3090/F	0.0	21.6	4.81	2.22
ST4F3091/F	0.0	20.5	4.93	2.24
ST4F3092/F	0.0	22.1	5.25	2.22
ST4F3093/F	0.0	22.4	5.09	2.14
ST4F3094/F	0.0	21.7	4.70	2.21
ST4F3095/F	0.0	22.9	5.37	2.10
ST4F3096/F	0.0	21.2	5.14	2.12
ST4F3097/F	0.0	23.0	4.83	2.13
Number of observ. :		(14)	(14)	(14)

App. I2 **Individual organ to body weight ratios with terminal body weights – 14 Days**

GROUP	DURATION OF EXPOSURE	TEST SUBSTANCE	DOSE LEVELS	NUMBER OF ANIMALS PER GROUP	ANIMAL IDENTITY	
FEMALES					SG1 (Sept. 04, 2008)	SG2 (Sept. 05, 2008)
1	3 Days	Phenobarbital	80 mg/kg/day	15	ST1F3039 to 3047	ST1F3048 to 3053
2	3 Days	Control	0	15	ST2F3054 to 3059	ST2F3060 to 3068
3	3 Days	TERTIARY BUTANOL	2 mg/mL	15	ST3F3069 to 3077	ST3F3078 to 3083
4	3 Days		20 mg/mL	15	ST4F3084 to 3089	ST4F3090 to 3098
FEMALES					SG1 (Sept. 03, 2008)	SG2 (Sept. 04, 2008)
1	14 Days	Phenobarbital	80 mg/kg/day	15	ST1F3099 to 3107	ST1F3108 to 3113
2	14 Days	Control	0	15	ST2F3114 to 3119	ST2F3120 to 3128
3	14 Days	TERTIARY BUTANOL	2 mg/mL	15	ST3F3129 to 3137	ST3F3138 to 3143
4	14 Days		20 mg/mL	15	ST4F3144 to 3149	ST4F3150 to 3158

Note: There is no reason given for the missing value (mean calculated with 14 values in the corresponding group). The liver of the corresponding animal was sampled and examined.

Animal No/sex	Dose mg/kg	Terminal Body wt. (g)	LIVER	BRAIN
				Female Animals
ST1F3099/F	80.0	23.1	6.02	2.08
ST1F3100/F	80.0	22.2	MISSING	2.21
ST1F3101/F	80.0	20.0	5.85	2.45
ST1F3102/F	80.0	21.8	5.96	2.29
ST1F3103/F	80.0	21.2	5.85	2.22
ST1F3104/F	80.0	19.6	5.61	2.45
ST1F3105/F	80.0	22.0	5.82	2.18
ST1F3106/F	80.0	22.1	5.61	2.35
ST1F3107/F	80.0	20.5	5.95	2.24
ST1F3108/F	80.0	19.1	5.45	2.41
ST1F3109/F	80.0	19.7	5.38	2.34
ST1F3110/F	80.0	20.0	5.75	2.15
ST1F3111/F	80.0	22.9	5.72	2.10
ST1F3112/F	80.0	19.8	5.86	2.42
ST1F3113/F	80.0	20.7	5.70	2.37
Number of observ. :		(15)	(14)	(15)
ST2F3114/F	0.0	21.5	4.56	2.19
ST2F3115/F	0.0	22.9	5.02	2.05
ST2F3116/F	0.0	20.9	4.98	2.30
ST2F3117/F	0.0	21.6	5.46	2.27
ST2F3118/F	0.0	21.8	4.77	2.20
ST2F3119/F	0.0	24.2	5.08	2.07
ST2F3120/F	0.0	23.2	5.13	2.03
ST2F3121/F	0.0	21.4	5.09	2.24
ST2F3122/F	0.0	21.6	4.58	2.27
ST2F3123/F	0.0	20.6	4.13	2.23
ST2F3124/F	0.0	19.5	4.41	2.26
ST2F3125/F	0.0	21.8	4.95	2.20
ST2F3126/F	0.0	24.1	4.44	1.99
ST2F3127/F	0.0	22.8	4.78	2.15
ST2F3128/F	0.0	20.9	4.78	2.06
Number of observ. :		(15)	(15)	(15)
ST3F3129/F	0.0	22.2	4.77	2.12
ST3F3130/F	0.0	22.3	4.84	2.29
ST3F3131/F	0.0	22.0	4.91	2.18
ST3F3132/F	0.0	22.4	5.36	2.01
ST3F3133/F	0.0	23.4	5.13	2.14
ST3F3134/F	0.0	22.5	4.89	1.96
ST3F3135/F	0.0	22.5	4.80	2.18
ST3F3136/F	0.0	22.4	5.27	2.14
ST3F3137/F	0.0	21.1	5.02	2.23
ST3F3138/F	0.0	23.1	4.59	2.08
ST3F3139/F	0.0	20.5	4.54	2.34

Animal No/sex	Dose mg/kg	Terminal Body wt. (g)	LIVER	BRAIN
ST3F3140/F	0.0	21.5	5.16	2.23
ST3F3141/F	0.0	21.8	5.28	2.25
ST3F3142/F	0.0	22.8	5.04	2.06
ST3F3143/F	0.0	21.1	4.64	2.27
Number of observ. :		(15)	(15)	(15)
ST4F3144/F	0.0	23.5	5.23	2.00
ST4F3145/F	0.0	21.2	4.76	2.26
ST4F3146/F	0.0	23.4	5.26	2.09
ST4F3147/F	0.0	21.7	5.07	2.17
ST4F3148/F	0.0	23.7	5.02	2.07
ST4F3149/F	0.0	22.0	4.86	2.18
ST4F3150/F	0.0	21.3	4.88	2.16
ST4F3151/F	0.0	22.3	5.02	2.02
ST4F3152/F	0.0	23.3	4.94	1.89
ST4F3153/F	0.0	22.4	5.09	2.19
ST4F3154/F	0.0	21.8	4.82	2.16
ST4F3155/F	0.0	25.1	5.54	1.83
ST4F3156/F	0.0	23.0	4.57	2.17
ST4F3157/F	0.0	21.0	5.00	2.24
ST4F3158/F	0.0	22.1	4.71	2.17
Number of observ. :		(15)	(15)	(15)

APPENDIX J - INDIVIDUAL ORGAN TO BRAIN WEIGHT RATIOS WITH TERMINAL BODY WEIGHTS

App. J1 **Individual organ to brain weight ratios with terminal body weights – 3 Days**

App. J2 **Individual organ to brain weight ratios with terminal body weights – 14 Days**

App. J1 **Individual organ to brain weight ratios with terminal body weights – 3 Days**

GROUP	DURATION OF EXPOSURE	TEST SUBSTANCE	DOSE LEVELS	NUMBER OF ANIMALS PER GROUP	ANIMAL IDENTITY	
FEMALES					SG1 (Sept. 04, 2008)	SG2 (Sept. 05, 2008)
1	3 Days	Phenobarbital	80 mg/kg/day	15	ST1F3039 to 3047	ST1F3048 to 3053
2	3 Days	Control	0	15	ST2F3054 to 3059	ST2F3060 to 3068
3	3 Days	TERTIARY BUTANOL	2 mg/mL	15	ST3F3069 to 3077	ST3F3078 to 3083
4	3 Days		20 mg/mL	15	ST4F3084 to 3089	ST4F3090 to 3098
FEMALES					SG1 (Sept. 03, 2008)	SG2 (Sept. 04, 2008)
1	14 Days	Phenobarbital	80 mg/kg/day	15	ST1F3099 to 3107	ST1F3108 to 3113
2	14 Days	Control	0	15	ST2F3114 to 3119	ST2F3120 to 3128
3	14 Days	TERTIARY BUTANOL	2 mg/mL	15	ST3F3129 to 3137	ST3F3138 to 3143
4	14 Days		20 mg/mL	15	ST4F3144 to 3149	ST4F3150 to 3158

Notes:

- One missing value corresponds to the animal ST4F3098 that died on Study Day 3 without any significant macroscopic finding. This death was considered not to be treatment-related.
- There is no reason given for the other missing value (mean calculated with 14 values in the corresponding group). The liver of the corresponding animal was sampled and examined.

Bayer CropScience
Center of Toxicology
Sophia-Antipolis
Mouse/B6C3F1

Individual organ to Brain Weight ratios (%)
Study number: SA 08160
Scheduled Sacrifices FS
Study start date: 04-Sep-08

Printed: 10-Sep-08
Page: 1
Mechanistic study/Exploratory study

Animal No/sex	Dose mg/kg	Terminal Body wt. (g)	LIVER	BRAIN
				Female Animals
ST1F3039/F	80.0	21.7	249.02	100.00
ST1F3040/F	80.0	21.8	244.90	100.00
ST1F3041/F	80.0	21.2	221.57	100.00
ST1F3042/F	80.0	23.2	278.43	100.00
ST1F3043/F	80.0	21.8	258.33	100.00
ST1F3044/F	80.0	22.7	204.08	100.00
ST1F3045/F	80.0	21.8	MISSING	100.00
ST1F3046/F	80.0	19.4	212.77	100.00
ST1F3047/F	80.0	21.2	251.02	100.00
ST1F3048/F	80.0	23.2	250.00	100.00
ST1F3049/F	80.0	21.4	234.69	100.00
ST1F3050/F	80.0	22.9	267.35	100.00
ST1F3051/F	80.0	21.7	228.85	100.00
ST1F3052/F	80.0	23.0	268.75	100.00
ST1F3053/F	80.0	21.4	242.00	100.00
Number of observ. :		(15)	(14)	(15)
ST2F3054/F	0.0	22.8	225.00	100.00
ST2F3055/F	0.0	23.3	248.94	100.00
ST2F3056/F	0.0	21.1	214.29	100.00
ST2F3057/F	0.0	22.2	237.50	100.00
ST2F3058/F	0.0	24.4	250.94	100.00
ST2F3059/F	0.0	22.0	206.25	100.00
ST2F3060/F	0.0	24.4	285.11	100.00
ST2F3061/F	0.0	23.0	208.16	100.00
ST2F3062/F	0.0	22.5	180.00	100.00
ST2F3063/F	0.0	19.4	177.55	100.00
ST2F3064/F	0.0	20.9	185.42	100.00
ST2F3065/F	0.0	21.6	188.00	100.00
ST2F3066/F	0.0	21.7	202.13	100.00
ST2F3067/F	0.0	22.7	224.49	100.00
ST2F3068/F	0.0	21.1	208.16	100.00
Number of observ. :		(15)	(15)	(15)
ST3F3069/F	0.0	22.0	222.45	100.00
ST3F3070/F	0.0	23.7	241.67	100.00
ST3F3071/F	0.0	22.6	206.00	100.00
ST3F3072/F	0.0	22.3	187.50	100.00
ST3F3073/F	0.0	23.5	238.78	100.00
ST3F3074/F	0.0	20.7	208.51	100.00
ST3F3075/F	0.0	21.0	217.39	100.00
ST3F3076/F	0.0	21.8	185.71	100.00
ST3F3077/F	0.0	23.7	226.53	100.00
ST3F3078/F	0.0	22.7	204.00	100.00
ST3F3079/F	0.0	21.2	195.92	100.00

Animal No/sex	Dose mg/kg	Terminal Body wt. (g)	LIVER	BRAIN
ST3F3080/F	0.0	21.9	204.08	100.00
ST3F3081/F	0.0	21.4	221.28	100.00
ST3F3082/F	0.0	23.1	234.00	100.00
ST3F3083/F	0.0	20.8	217.39	100.00
Number of observ. :		(15)	(15)	(15)
ST4F3084/F	0.0	22.6	210.64	100.00
ST4F3085/F	0.0	23.0	200.00	100.00
ST4F3086/F	0.0	23.4	236.00	100.00
ST4F3087/F	0.0	21.9	208.33	100.00
ST4F3088/F	0.0	22.5	241.67	100.00
ST4F3089/F	0.0	21.9	225.53	100.00
ST4F3090/F	0.0	21.6	216.67	100.00
ST4F3091/F	0.0	20.5	219.57	100.00
ST4F3092/F	0.0	22.1	236.73	100.00
ST4F3093/F	0.0	22.4	237.50	100.00
ST4F3094/F	0.0	21.7	212.50	100.00
ST4F3095/F	0.0	22.9	256.25	100.00
ST4F3096/F	0.0	21.2	242.22	100.00
ST4F3097/F	0.0	23.0	226.53	100.00
Number of observ. :		(14)	(14)	(14)

App. J2 **Individual organ to brain weight ratios with terminal body weights – 14 Days**

GROUP	DURATION OF EXPOSURE	TEST SUBSTANCE	DOSE LEVELS	NUMBER OF ANIMALS PER GROUP	ANIMAL IDENTITY	
FEMALES					SG1 (Sept. 04, 2008)	SG2 (Sept. 05, 2008)
1	3 Days	Phenobarbital	80 mg/kg/day	15	ST1F3039 to 3047	ST1F3048 to 3053
2	3 Days	Control	0	15	ST2F3054 to 3059	ST2F3060 to 3068
3	3 Days	TERTIARY BUTANOL	2 mg/mL	15	ST3F3069 to 3077	ST3F3078 to 3083
4	3 Days		20 mg/mL	15	ST4F3084 to 3089	ST4F3090 to 3098
FEMALES					SG1 (Sept. 03, 2008)	SG2 (Sept. 04, 2008)
1	14 Days	Phenobarbital	80 mg/kg/day	15	ST1F3099 to 3107	ST1F3108 to 3113
2	14 Days	Control	0	15	ST2F3114 to 3119	ST2F3120 to 3128
3	14 Days	TERTIARY BUTANOL	2 mg/mL	15	ST3F3129 to 3137	ST3F3138 to 3143
4	14 Days		20 mg/mL	15	ST4F3144 to 3149	ST4F3150 to 3158

Note: There is no reason given for the missing value (mean calculated with 14 values in the corresponding group). The liver of the corresponding animal was sampled and examined.

Bayer CropScience
Center of Toxicology
Sophia-Antipolis
Mouse/B6C3F1

Individual organ to Brain Weight ratios (%)
Study number: SA-08160
Scheduled Sacrifices FS
Study start date: 03-Sep-08

Printed: 19-Sep-08
Page: 1
Mechanistic study/Exploratory study

Animal No/sex	Dose mg/kg	Terminal Body wt. (g)	LIVER	BRAIN
				Female Animals
ST1F3099/F	80.0	23.1	289.58	100.00
ST1F3100/F	80.0	22.2	MISSING	100.00
ST1F3101/F	80.0	20.0	238.78	100.00
ST1F3102/F	80.0	21.8	260.00	100.00
ST1F3103/F	80.0	21.2	263.83	100.00
ST1F3104/F	80.0	19.6	229.17	100.00
ST1F3105/F	80.0	22.0	266.67	100.00
ST1F3106/F	80.0	22.1	238.46	100.00
ST1F3107/F	80.0	20.5	265.22	100.00
ST1F3108/F	80.0	19.1	226.09	100.00
ST1F3109/F	80.0	19.7	230.43	100.00
ST1F3110/F	80.0	20.0	267.44	100.00
ST1F3111/F	80.0	22.9	272.92	100.00
ST1F3112/F	80.0	19.8	241.67	100.00
ST1F3113/F	80.0	20.7	240.82	100.00
Number of observ. :		(15)	(14)	(15)
ST2F3114/F	0.0	21.5	208.51	100.00
ST2F3115/F	0.0	22.9	244.68	100.00
ST2F3116/F	0.0	20.9	216.67	100.00
ST2F3117/F	0.0	21.6	240.82	100.00
ST2F3118/F	0.0	21.8	216.67	100.00
ST2F3119/F	0.0	24.2	246.00	100.00
ST2F3120/F	0.0	23.2	253.19	100.00
ST2F3121/F	0.0	21.4	227.08	100.00
ST2F3122/F	0.0	21.6	202.04	100.00
ST2F3123/F	0.0	20.6	184.78	100.00
ST2F3124/F	0.0	19.5	195.45	100.00
ST2F3125/F	0.0	21.8	225.00	100.00
ST2F3126/F	0.0	24.1	222.92	100.00
ST2F3127/F	0.0	22.8	222.45	100.00
ST2F3128/F	0.0	20.9	232.56	100.00
Number of observ. :		(15)	(15)	(15)
ST3F3129/F	0.0	22.2	225.53	100.00
ST3F3130/F	0.0	22.3	211.76	100.00
ST3F3131/F	0.0	22.0	225.00	100.00
ST3F3132/F	0.0	22.4	266.67	100.00
ST3F3133/F	0.0	23.4	240.00	100.00
ST3F3134/F	0.0	22.5	250.00	100.00
ST3F3135/F	0.0	22.5	220.41	100.00
ST3F3136/F	0.0	22.4	245.83	100.00
ST3F3137/F	0.0	21.1	225.53	100.00
ST3F3138/F	0.0	23.1	220.83	100.00
ST3F3139/F	0.0	20.5	193.75	100.00

Animal No/sex	Dose mg/kg	Terminal Body wt. (g)	LIVER	BRAIN
ST3F3140/F	0.0	21.5	231.25	100.00
ST3F3141/F	0.0	21.8	234.69	100.00
ST3F3142/F	0.0	22.8	244.68	100.00
ST3F3143/F	0.0	21.1	204.17	100.00
Number of observ. :		(15)	(15)	(15)
ST4F3144/F	0.0	23.5	261.70	100.00
ST4F3145/F	0.0	21.2	210.42	100.00
ST4F3146/F	0.0	23.4	251.02	100.00
ST4F3147/F	0.0	21.7	234.04	100.00
ST4F3148/F	0.0	23.7	242.86	100.00
ST4F3149/F	0.0	22.0	222.92	100.00
ST4F3150/F	0.0	21.3	226.09	100.00
ST4F3151/F	0.0	22.3	248.89	100.00
ST4F3152/F	0.0	23.3	261.36	100.00
ST4F3153/F	0.0	22.4	232.65	100.00
ST4F3154/F	0.0	21.8	223.40	100.00
ST4F3155/F	0.0	25.1	302.17	100.00
ST4F3156/F	0.0	23.0	210.00	100.00
ST4F3157/F	0.0	21.0	223.40	100.00
ST4F3158/F	0.0	22.1	216.67	100.00
Number of observ. :		(15)	(15)	(15)

APPENDIX K - INDIVIDUAL GROSS AND MICROSCOPIC PATHOLOGY FINDINGS

App. K1 **Individual gross and microscopic pathology findings - 3 Days**

App. K2 **Individual gross and microscopic pathology findings - 14 Days**

App. K1 **Individual gross and microscopic pathology findings - 3 Days**

GROUP	DURATION OF EXPOSURE	TEST SUBSTANCE	DOSE LEVELS	NUMBER OF ANIMALS PER GROUP	ANIMAL IDENTITY	
FEMALES					SG1 (Sept. 04, 2008)	SG2 (Sept. 05, 2008)
1	3 Days	Phenobarbital	80 mg/kg/day	15	ST1F3039 to 3047	ST1F3048 to 3053
2	3 Days	Control	0	15	ST2F3054 to 3059	ST2F3060 to 3068
3	3 Days	TERTIARY BUTANOL	2 mg/mL	15	ST3F3069 to 3077	ST3F3078 to 3083
4	3 Days		20 mg/mL	15	ST4F3084 to 3089	ST4F3090 to 3098
FEMALES					SG1 (Sept. 03, 2008)	SG2 (Sept. 04, 2008)
1	14 Days	Phenobarbital	80 mg/kg/day	15	ST1F3099 to 3107	ST1F3108 to 3113
2	14 Days	Control	0	15	ST2F3114 to 3119	ST2F3120 to 3128
3	14 Days	TERTIARY BUTANOL	2 mg/mL	15	ST3F3129 to 3137	ST3F3138 to 3143
4	14 Days		20 mg/mL	15	ST4F3144 to 3149	ST4F3150 to 3158

Note: The dose level specified for animals in Groups 3 and 4 is 0 mg/kg. This is due to a limitation of the PathTox data capture system used. The actual dose levels are as specified in the above table.

ANIMAL: ST1F3039 SEX: Female GROUP: 1 DOSE LEVEL: 80.0 mg/kg
DAY/WEEK OF DEATH:5/1 Dosing phase 1 STATUS: Final phase sacrifice TERMINAL BODY WEIGHT (G): 21.7

<< G R O S S O B S E R V A T I O N S >>

TISSUE	GROSS OBSERVATIONS / COMMENTS
GENERAL COMMENT	All organs, no abnormality

<< P A T H O L O G Y O B S E R V A T I O N S >>

TISSUE	HISTOPATHOLOGIC DIAGNOSES / SPECIAL HISTOLOGICAL COMMENTS

ALL PROTOCOL REQUIRED TISSUES NORMAL.

ANIMAL: ST1F3040 SEX: Female GROUP: 1 DOSE LEVEL: 80.0 mg/kg
DAY/WEEK OF DEATH:5/1 Dosing phase 1 STATUS: Final phase sacrifice TERMINAL BODY WEIGHT (G): 21.8

<< G R O S S O B S E R V A T I O N S >>

TISSUE	GROSS OBSERVATIONS / COMMENTS
GENERAL COMMENT	All organs, no abnormality

<< P A T H O L O G Y O B S E R V A T I O N S >>

TISSUE	HISTOPATHOLOGIC DIAGNOSES / SPECIAL HISTOLOGICAL COMMENTS
LIVER	Miscellaneous tissue. Centrilobular hepatocellular hypertrophy: diffuse, Minimal. Increased number of mitoses, Minimal. Interstitial mononuclear cell infiltrate: focal/multifocal, Minimal.

The following tissues are normal:
THYROID GLAND(S)

ANIMAL: ST1F3041 SEX: Female GROUP: 1 DOSE LEVEL: 80.0 mg/kg
DAY/WEEK OF DEATH:5/1 Dosing phase 1 STATUS: Final phase sacrifice TERMINAL BODY WEIGHT (G): 21.2

<< G R O S S O B S E R V A T I O N S >>

TISSUE	GROSS OBSERVATIONS / COMMENTS
GENERAL COMMENT	All organs, no abnormality

<< P A T H O L O G Y O B S E R V A T I O N S >>

TISSUE	HISTOPATHOLOGIC DIAGNOSES / SPECIAL HISTOLOGICAL COMMENTS

ALL PROTOCOL REQUIRED TISSUES NORMAL.

ANIMAL: ST1F3042 SEX: Female GROUP: 1 DOSE LEVEL: 80.0 mg/kg
DAY/WEEK OF DEATH:5/1 Dosing phase 1 STATUS: Final phase sacrifice TERMINAL BODY WEIGHT (G): 23.2

<< G R O S S O B S E R V A T I O N S >>

TISSUE	GROSS OBSERVATIONS / COMMENTS
GENERAL COMMENT	All organs, no abnormality

<< P A T H O L O G Y O B S E R V A T I O N S >>

TISSUE	HISTOPATHOLOGIC DIAGNOSES / SPECIAL HISTOLOGICAL COMMENTS
THYROID GLAND(S)	Required tissue; one of pair is missing; other is normal.

ANIMAL: ST1F3043 SEX: Female GROUP: 1 DOSE LEVEL: 80.0 mg/kg
DAY/WEEK OF DEATH:5/1 Dosing phase 1 STATUS: Final phase sacrifice TERMINAL BODY WEIGHT (G): 21.8

<< G R O S S O B S E R V A T I O N S >>

TISSUE	GROSS OBSERVATIONS / COMMENTS
GENERAL COMMENT	All organs, no abnormality

<< P A T H O L O G Y O B S E R V A T I O N S >>

TISSUE	HISTOPATHOLOGIC DIAGNOSES / SPECIAL HISTOLOGICAL COMMENTS
THYROID GLAND(S)	Required tissue is missing.

ANIMAL: ST1F3044 SEX: Female GROUP: 1 DOSE LEVEL: 80.0 mg/kg
DAY/WEEK OF DEATH:5/1 Dosing phase 1 STATUS: Final phase sacrifice TERMINAL BODY WEIGHT (G): 22.7

<< G R O S S O B S E R V A T I O N S >>

TISSUE	GROSS OBSERVATIONS / COMMENTS
GENERAL COMMENT	All organs, no abnormality

<< P A T H O L O G Y O B S E R V A T I O N S >>

TISSUE	HISTOPATHOLOGIC DIAGNOSES / SPECIAL HISTOLOGICAL COMMENTS

ALL PROTOCOL REQUIRED TISSUES NORMAL.

ANIMAL: ST1F3045 SEX: Female GROUP: 1 DOSE LEVEL: 80.0 mg/kg
DAY/WEEK OF DEATH:5/1 Dosing phase 1 STATUS: Final phase sacrifice TERMINAL BODY WEIGHT (G): 21.8

<< G R O S S O B S E R V A T I O N S >>

TISSUE	GROSS OBSERVATIONS / COMMENTS
THYROID GLAND(S)	Congested / red, Slight, Bilateral

<< P A T H O L O G Y O B S E R V A T I O N S >>

TISSUE	HISTOPATHOLOGIC DIAGNOSES / SPECIAL HISTOLOGICAL COMMENTS
LIVER	Miscellaneous tissue. Centrilobular hepatocellular hypertrophy: diffuse, Slight. Increased number of mitoses, Slight. Hepatocellular glycogen accumulation: diffuse, Minimal. With loss of glycogen in the centrilobular zone.

The following tissues are normal:
THYROID GLAND(S)

ANIMAL: ST1F3046 SEX: Female GROUP: 1 DOSE LEVEL: 80.0 mg/kg
DAY/WEEK OF DEATH:5/1 Dosing phase 1 STATUS: Final phase sacrifice TERMINAL BODY WEIGHT (G): 19.4

<< G R O S S O B S E R V A T I O N S >>

TISSUE	GROSS OBSERVATIONS / COMMENTS
GENERAL COMMENT	All organs, no abnormality

<< P A T H O L O G Y O B S E R V A T I O N S >>

TISSUE	HISTOPATHOLOGIC DIAGNOSES / SPECIAL HISTOLOGICAL COMMENTS

ALL PROTOCOL REQUIRED TISSUES NORMAL.

ANIMAL: ST1F3047 SEX: Female GROUP: 1 DOSE LEVEL: 80.0 mg/kg
DAY/WEEK OF DEATH:5/1 Dosing phase 1 STATUS: Final phase sacrifice TERMINAL BODY WEIGHT (G): 21.2

<< G R O S S O B S E R V A T I O N S >>

TISSUE	GROSS OBSERVATIONS / COMMENTS
GENERAL COMMENT	All organs, no abnormality

<< P A T H O L O G Y O B S E R V A T I O N S >>

TISSUE	HISTOPATHOLOGIC DIAGNOSES / SPECIAL HISTOLOGICAL COMMENTS
LIVER	Miscellaneous tissue. Centrilobular hepatocellular hypertrophy: diffuse, Slight. Increased number of mitoses, Slight. Hepatocellular glycogen accumulation: diffuse, Minimal. With loss of glycogen in the centrilobular zone.

The following tissues are normal:
THYROID GLAND(S)

ANIMAL: ST1F3048 SEX: Female GROUP: 1 DOSE LEVEL: 80.0 mg/kg
DAY/WEEK OF DEATH:5/1 Dosing phase 1 STATUS: Final phase sacrifice TERMINAL BODY WEIGHT (G): 23.2

<< G R O S S O B S E R V A T I O N S >>

TISSUE	GROSS OBSERVATIONS / COMMENTS
THYROID GLAND(S)	Focus(i), black, Unilateral, Focal /Left. Pinpoint.

<< P A T H O L O G Y O B S E R V A T I O N S >>

TISSUE	HISTOPATHOLOGIC DIAGNOSES / SPECIAL HISTOLOGICAL COMMENTS
THYROID GLAND(S)	Required tissue. Follicular cyst(s), Minimal.

Bayer CropScience
Center of Toxicology
Sophia-Antipolis
Mouse/B6C3F1

INDIVIDUAL ANIMAL DATA DUMP TABLE
STUDY NUMBER: SA 08160
Dosing phase 1
ANIMAL REFERENCE DATE: 05-Sep-08

Printed: 06-Nov-08
Page: 11
Mechanistic study/Exploratory study

ANIMAL: ST1F3049 SEX: Female GROUP: 1 DOSE LEVEL: 80.0 mg/kg
DAY/WEEK OF DEATH:5/1 Dosing phase 1 STATUS: Final phase sacrifice TERMINAL BODY WEIGHT (G): 21.4

<< G R O S S O B S E R V A T I O N S >>

TISSUE	GROSS OBSERVATIONS / COMMENTS
GENERAL COMMENT	All organs, no abnormality

<< P A T H O L O G Y O B S E R V A T I O N S >>

TISSUE	HISTOPATHOLOGIC DIAGNOSES / SPECIAL HISTOLOGICAL COMMENTS
LIVER	Miscellaneous tissue. Centrilobular hepatocellular hypertrophy: diffuse, Minimal. Increased number of mitoses, Minimal. Hepatocellular glycogen accumulation: diffuse, Minimal. With loss of glycogen in the centrilobular zone.
THYROID GLAND(S)	Required tissue. Interstitial mononuclear cell infiltrate: focal/multifocal, Minimal.

ANIMAL: ST1F3050 SEX: Female GROUP: 1 DOSE LEVEL: 80.0 mg/kg
DAY/WEEK OF DEATH:5/1 Dosing phase 1 STATUS: Final phase sacrifice TERMINAL BODY WEIGHT (G): 22.9

<< G R O S S O B S E R V A T I O N S >>

TISSUE	GROSS OBSERVATIONS / COMMENTS
GENERAL COMMENT	All organs, no abnormality

<< P A T H O L O G Y O B S E R V A T I O N S >>

TISSUE	HISTOPATHOLOGIC DIAGNOSES / SPECIAL HISTOLOGICAL COMMENTS
LIVER	Miscellaneous tissue. Centrilobular hepatocellular hypertrophy: diffuse, Minimal. Hepatocellular glycogen accumulation: diffuse, Minimal. With loss of glycogen in the centrilobular zone.

The following tissues are normal:
THYROID GLAND(S)

ANIMAL: ST1F3051 SEX: Female GROUP: 1 DOSE LEVEL: 80.0 mg/kg
DAY/WEEK OF DEATH:5/1 Dosing phase 1 STATUS: Final phase sacrifice TERMINAL BODY WEIGHT (G): 21.7

<< G R O S S O B S E R V A T I O N S >>

TISSUE	GROSS OBSERVATIONS / COMMENTS
ADRENAL GLAND(S)	Enlarged, Minimal, Bilateral /Not sampled.

<< P A T H O L O G Y O B S E R V A T I O N S >>

TISSUE	HISTOPATHOLOGIC DIAGNOSES / SPECIAL HISTOLOGICAL COMMENTS

ALL PROTOCOL REQUIRED TISSUES NORMAL.

ANIMAL: ST1F3052 SEX: Female GROUP: 1 DOSE LEVEL: 80.0 mg/kg
DAY/WEEK OF DEATH:5/1 Dosing phase 1 STATUS: Final phase sacrifice TERMINAL BODY WEIGHT (G): 23.0

<< G R O S S O B S E R V A T I O N S >>

TISSUE	GROSS OBSERVATIONS / COMMENTS
GENERAL COMMENT	All organs, no abnormality

<< P A T H O L O G Y O B S E R V A T I O N S >>

TISSUE	HISTOPATHOLOGIC DIAGNOSES / SPECIAL HISTOLOGICAL COMMENTS

ALL PROTOCOL REQUIRED TISSUES NORMAL.

ANIMAL: ST1F3053 SEX: Female GROUP: 1 DOSE LEVEL: 80.0 mg/kg
DAY/WEEK OF DEATH:5/1 Dosing phase 1 STATUS: Final phase sacrifice TERMINAL BODY WEIGHT (G): 21.4

<< G R O S S O B S E R V A T I O N S >>

TISSUE	GROSS OBSERVATIONS / COMMENTS
GENERAL COMMENT	All organs, no abnormality

<< P A T H O L O G Y O B S E R V A T I O N S >>

TISSUE	HISTOPATHOLOGIC DIAGNOSES / SPECIAL HISTOLOGICAL COMMENTS

ALL PROTOCOL REQUIRED TISSUES NORMAL.

ANIMAL: ST2F3054 SEX: Female GROUP: 2 DOSE LEVEL: 0.0 mg/kg
DAY/WEEK OF DEATH:5/1 Dosing phase 1 STATUS: Final phase sacrifice TERMINAL BODY WEIGHT (G): 22.8

<< G R O S S O B S E R V A T I O N S >>

TISSUE	GROSS OBSERVATIONS / COMMENTS
GENERAL COMMENT	All organs, no abnormality

<< P A T H O L O G Y O B S E R V A T I O N S >>

TISSUE	HISTOPATHOLOGIC DIAGNOSES / SPECIAL HISTOLOGICAL COMMENTS

ALL PROTOCOL REQUIRED TISSUES NORMAL.

ANIMAL: ST2F3055 SEX: Female GROUP: 2 DOSE LEVEL: 0.0 mg/kg
DAY/WEEK OF DEATH:5/1 Dosing phase 1 STATUS: Final phase sacrifice TERMINAL BODY WEIGHT (G): 23.3

<< G R O S S O B S E R V A T I O N S >>

TISSUE	GROSS OBSERVATIONS / COMMENTS
GENERAL COMMENT	All organs, no abnormality

<< P A T H O L O G Y O B S E R V A T I O N S >>

TISSUE	HISTOPATHOLOGIC DIAGNOSES / SPECIAL HISTOLOGICAL COMMENTS

ALL PROTOCOL REQUIRED TISSUES NORMAL.

ANIMAL: ST2F3056 SEX: Female GROUP: 2 DOSE LEVEL: 0.0 mg/kg
DAY/WEEK OF DEATH:5/1 Dosing phase 1 STATUS: Final phase sacrifice TERMINAL BODY WEIGHT (G): 21.1

<< G R O S S O B S E R V A T I O N S >>

TISSUE	GROSS OBSERVATIONS / COMMENTS
GENERAL COMMENT	All organs, no abnormality

<< P A T H O L O G Y O B S E R V A T I O N S >>

TISSUE	HISTOPATHOLOGIC DIAGNOSES / SPECIAL HISTOLOGICAL COMMENTS

ALL PROTOCOL REQUIRED TISSUES NORMAL.

Bayer CropScience
Center of Toxicology
Sophia-Antipolis
Mouse/B6C3F1

INDIVIDUAL ANIMAL DATA DUMP TABLE
STUDY NUMBER: SA 08160
Dosing phase 1
ANIMAL REFERENCE DATE: 04-Sep-08

Printed: 06-Nov-08
Page: 19
Mechanistic study/Exploratory study

ANIMAL: ST2F3057 SEX: Female GROUP: 2 DOSE LEVEL: 0.0 mg/kg
DAY/WEEK OF DEATH:5/1 Dosing phase 1 STATUS: Final phase sacrifice TERMINAL BODY WEIGHT (G): 22.2

<< G R O S S O B S E R V A T I O N S >>

TISSUE	GROSS OBSERVATIONS / COMMENTS
GENERAL COMMENT	All organs, no abnormality

<< P A T H O L O G Y O B S E R V A T I O N S >>

TISSUE	HISTOPATHOLOGIC DIAGNOSES / SPECIAL HISTOLOGICAL COMMENTS

ALL PROTOCOL REQUIRED TISSUES NORMAL.

ANIMAL: ST2F3058 SEX: Female GROUP: 2 DOSE LEVEL: 0.0 mg/kg
DAY/WEEK OF DEATH:5/1 Dosing phase 1 STATUS: Final phase sacrifice TERMINAL BODY WEIGHT (G): 24.4

<< G R O S S O B S E R V A T I O N S >>

TISSUE	GROSS OBSERVATIONS / COMMENTS
GENERAL COMMENT	All organs, no abnormality

<< P A T H O L O G Y O B S E R V A T I O N S >>

TISSUE	HISTOPATHOLOGIC DIAGNOSES / SPECIAL HISTOLOGICAL COMMENTS
LIVER	Miscellaneous tissue. Hepatocellular glycogen accumulation: diffuse, Slight. Interstitial mixed cell infiltrate: focal/multifocal, Minimal.

The following tissues are normal:
THYROID GLAND(S)

ANIMAL: ST2F3059 SEX: Female GROUP: 2 DOSE LEVEL: 0.0 mg/kg
DAY/WEEK OF DEATH:5/1 Dosing phase 1 STATUS: Final phase sacrifice TERMINAL BODY WEIGHT (G): 22.0

<< G R O S S O B S E R V A T I O N S >>

TISSUE	GROSS OBSERVATIONS / COMMENTS
GENERAL COMMENT	All organs, no abnormality

<< P A T H O L O G Y O B S E R V A T I O N S >>

TISSUE	HISTOPATHOLOGIC DIAGNOSES / SPECIAL HISTOLOGICAL COMMENTS
LIVER	Miscellaneous tissue. Hepatocellular glycogen accumulation: diffuse, Minimal. Interstitial mononuclear cell infiltrate: focal/multifocal, Minimal.

The following tissues are normal:
THYROID GLAND(S)

ANIMAL: ST2F3060 SEX: Female GROUP: 2 DOSE LEVEL: 0.0 mg/kg
DAY/WEEK OF DEATH:5/1 Dosing phase 1 STATUS: Final phase sacrifice TERMINAL BODY WEIGHT (G): 24.4

<< G R O S S O B S E R V A T I O N S >>

TISSUE	GROSS OBSERVATIONS / COMMENTS
GENERAL COMMENT	All organs, no abnormality

<< P A T H O L O G Y O B S E R V A T I O N S >>

TISSUE	HISTOPATHOLOGIC DIAGNOSES / SPECIAL HISTOLOGICAL COMMENTS

ALL PROTOCOL REQUIRED TISSUES NORMAL.

ANIMAL: ST2F3061 SEX: Female GROUP: 2 DOSE LEVEL: 0.0 mg/kg
DAY/WEEK OF DEATH:5/1 Dosing phase 1 STATUS: Final phase sacrifice TERMINAL BODY WEIGHT (G): 23.0

<< G R O S S O B S E R V A T I O N S >>

TISSUE	GROSS OBSERVATIONS / COMMENTS
OVARY(IES)	Nodule(s)/Mass(es), Unilateral, Well demarcated /Right. 1.1 cm in diam. Preserved as L1.

<< P A T H O L O G Y O B S E R V A T I O N S >>

TISSUE	HISTOPATHOLOGIC DIAGNOSES / SPECIAL HISTOLOGICAL COMMENTS
OVARY(IES)	Miscellaneous tissue. B-Teratoma, benign, Incidental, 1 tumors present.

The following tissues are normal:
THYROID GLAND(S)

ANIMAL: ST2F3062 SEX: Female GROUP: 2 DOSE LEVEL: 0.0 mg/kg
DAY/WEEK OF DEATH:5/1 Dosing phase 1 STATUS: Final phase sacrifice TERMINAL BODY WEIGHT (G): 22.5

<< G R O S S O B S E R V A T I O N S >>

TISSUE	GROSS OBSERVATIONS / COMMENTS
GENERAL COMMENT	All organs, no abnormality

<< P A T H O L O G Y O B S E R V A T I O N S >>

TISSUE	HISTOPATHOLOGIC DIAGNOSES / SPECIAL HISTOLOGICAL COMMENTS

ALL PROTOCOL REQUIRED TISSUES NORMAL.

ANIMAL: ST2F3063 SEX: Female GROUP: 2 DOSE LEVEL: 0.0 mg/kg
DAY/WEEK OF DEATH:5/1 Dosing phase 1 STATUS: Final phase sacrifice TERMINAL BODY WEIGHT (G): 19.4

<< G R O S S O B S E R V A T I O N S >>

TISSUE	GROSS OBSERVATIONS / COMMENTS
GENERAL COMMENT	All organs, no abnormality

<< P A T H O L O G Y O B S E R V A T I O N S >>

TISSUE	HISTOPATHOLOGIC DIAGNOSES / SPECIAL HISTOLOGICAL COMMENTS

ALL PROTOCOL REQUIRED TISSUES NORMAL.

ANIMAL: ST2F3064 SEX: Female GROUP: 2 DOSE LEVEL: 0.0 mg/kg
DAY/WEEK OF DEATH:5/1 Dosing phase 1 STATUS: Final phase sacrifice TERMINAL BODY WEIGHT (G): 20.9

<< G R O S S O B S E R V A T I O N S >>

TISSUE	GROSS OBSERVATIONS / COMMENTS
GENERAL COMMENT	All organs, no abnormality

<< P A T H O L O G Y O B S E R V A T I O N S >>

TISSUE	HISTOPATHOLOGIC DIAGNOSES / SPECIAL HISTOLOGICAL COMMENTS
LIVER	Miscellaneous tissue. Hepatocellular glycogen accumulation: diffuse, Slight. Interstitial mixed cell infiltrate: focal/multifocal, Minimal.

The following tissues are normal:
THYROID GLAND(S)

ANIMAL: ST2F3065 SEX: Female GROUP: 2 DOSE LEVEL: 0.0 mg/kg
DAY/WEEK OF DEATH:5/1 Dosing phase 1 STATUS: Final phase sacrifice TERMINAL BODY WEIGHT (G): 21.6

<< G R O S S O B S E R V A T I O N S >>

TISSUE	GROSS OBSERVATIONS / COMMENTS
GENERAL COMMENT	All organs, no abnormality

<< P A T H O L O G Y O B S E R V A T I O N S >>

TISSUE	HISTOPATHOLOGIC DIAGNOSES / SPECIAL HISTOLOGICAL COMMENTS
LIVER	Miscellaneous tissue. Hepatocellular glycogen accumulation: diffuse, Slight. Interstitial mixed cell infiltrate: focal/multifocal, Minimal.

The following tissues are normal:
THYROID GLAND(S)

ANIMAL: ST2F3066 SEX: Female GROUP: 2 DOSE LEVEL: 0.0 mg/kg
DAY/WEEK OF DEATH:5/1 Dosing phase 1 STATUS: Final phase sacrifice TERMINAL BODY WEIGHT (G): 21.7

<< G R O S S O B S E R V A T I O N S >>

TISSUE	GROSS OBSERVATIONS / COMMENTS
GENERAL COMMENT	All organs, no abnormality

<< P A T H O L O G Y O B S E R V A T I O N S >>

TISSUE	HISTOPATHOLOGIC DIAGNOSES / SPECIAL HISTOLOGICAL COMMENTS

ALL PROTOCOL REQUIRED TISSUES NORMAL.

ANIMAL: ST2F3067 SEX: Female GROUP: 2 DOSE LEVEL: 0.0 mg/kg
DAY/WEEK OF DEATH:5/1 Dosing phase 1 STATUS: Final phase sacrifice TERMINAL BODY WEIGHT (G): 22.7

<< G R O S S O B S E R V A T I O N S >>

TISSUE	GROSS OBSERVATIONS / COMMENTS
GENERAL COMMENT	All organs, no abnormality

<< P A T H O L O G Y O B S E R V A T I O N S >>

TISSUE	HISTOPATHOLOGIC DIAGNOSES / SPECIAL HISTOLOGICAL COMMENTS
LIVER	Miscellaneous tissue. Hepatocellular glycogen accumulation: diffuse, Slight. Interstitial mixed cell infiltrate: focal/multifocal, Minimal.

The following tissues are normal:
THYROID GLAND(S)

ANIMAL: ST2F3068 SEX: Female GROUP: 2 DOSE LEVEL: 0.0 mg/kg
DAY/WEEK OF DEATH:5/1 Dosing phase 1 STATUS: Final phase sacrifice TERMINAL BODY WEIGHT (G): 21.1

<< G R O S S O B S E R V A T I O N S >>

TISSUE	GROSS OBSERVATIONS / COMMENTS
GENERAL COMMENT	All organs, no abnormality

<< P A T H O L O G Y O B S E R V A T I O N S >>

TISSUE	HISTOPATHOLOGIC DIAGNOSES / SPECIAL HISTOLOGICAL COMMENTS

ALL PROTOCOL REQUIRED TISSUES NORMAL.

ANIMAL: ST3F3069 SEX: Female GROUP: 3 DOSE LEVEL: 0.0 mg/kg
DAY/WEEK OF DEATH:5/1 Dosing phase 1 STATUS: Final phase sacrifice TERMINAL BODY WEIGHT (G): 22.0

<< G R O S S O B S E R V A T I O N S >>

TISSUE	GROSS OBSERVATIONS / COMMENTS
GENERAL COMMENT	All organs, no abnormality

<< P A T H O L O G Y O B S E R V A T I O N S >>

TISSUE	HISTOPATHOLOGIC DIAGNOSES / SPECIAL HISTOLOGICAL COMMENTS

ALL PROTOCOL REQUIRED TISSUES NORMAL.

ANIMAL: ST3F3070 SEX: Female GROUP: 3 DOSE LEVEL: 0.0 mg/kg
DAY/WEEK OF DEATH:5/1 Dosing phase 1 STATUS: Final phase sacrifice TERMINAL BODY WEIGHT (G): 23.7

<< G R O S S O B S E R V A T I O N S >>

TISSUE	GROSS OBSERVATIONS / COMMENTS
THYROID GLAND(S)	Enlarged, Minimal, Unilateral /Right.

<< P A T H O L O G Y O B S E R V A T I O N S >>

TISSUE	HISTOPATHOLOGIC DIAGNOSES / SPECIAL HISTOLOGICAL COMMENTS

ALL PROTOCOL REQUIRED TISSUES NORMAL.

ANIMAL: ST3F3071 SEX: Female GROUP: 3 DOSE LEVEL: 0.0 mg/kg
DAY/WEEK OF DEATH:5/1 Dosing phase 1 STATUS: Final phase sacrifice TERMINAL BODY WEIGHT (G): 22.6

<< G R O S S O B S E R V A T I O N S >>

TISSUE	GROSS OBSERVATIONS / COMMENTS
THYROID GLAND(S)	Focus(i), red, Unilateral, Focal /Right. Pinpoint.

<< P A T H O L O G Y O B S E R V A T I O N S >>

TISSUE	HISTOPATHOLOGIC DIAGNOSES / SPECIAL HISTOLOGICAL COMMENTS

ALL PROTOCOL REQUIRED TISSUES NORMAL.

ANIMAL: ST3F3072 SEX: Female GROUP: 3 DOSE LEVEL: 0.0 mg/kg
DAY/WEEK OF DEATH:5/1 Dosing phase 1 STATUS: Final phase sacrifice TERMINAL BODY WEIGHT (G): 22.3

<< G R O S S O B S E R V A T I O N S >>

TISSUE	GROSS OBSERVATIONS / COMMENTS
GENERAL COMMENT	All organs, no abnormality

<< P A T H O L O G Y O B S E R V A T I O N S >>

TISSUE	HISTOPATHOLOGIC DIAGNOSES / SPECIAL HISTOLOGICAL COMMENTS

ALL PROTOCOL REQUIRED TISSUES NORMAL.

ANIMAL: ST3F3073 SEX: Female GROUP: 3 DOSE LEVEL: 0.0 mg/kg
DAY/WEEK OF DEATH:5/1 Dosing phase 1 STATUS: Final phase sacrifice TERMINAL BODY WEIGHT (G): 23.5

<< G R O S S O B S E R V A T I O N S >>

TISSUE	GROSS OBSERVATIONS / COMMENTS
GENERAL COMMENT	All organs, no abnormality

<< P A T H O L O G Y O B S E R V A T I O N S >>

TISSUE	HISTOPATHOLOGIC DIAGNOSES / SPECIAL HISTOLOGICAL COMMENTS

ALL PROTOCOL REQUIRED TISSUES NORMAL.

ANIMAL: ST3F3074 SEX: Female GROUP: 3 DOSE LEVEL: 0.0 mg/kg
DAY/WEEK OF DEATH:5/1 Dosing phase 1 STATUS: Final phase sacrifice TERMINAL BODY WEIGHT (G): 20.7

<< G R O S S O B S E R V A T I O N S >>

TISSUE	GROSS OBSERVATIONS / COMMENTS
GENERAL COMMENT	All organs, no abnormality

<< P A T H O L O G Y O B S E R V A T I O N S >>

TISSUE	HISTOPATHOLOGIC DIAGNOSES / SPECIAL HISTOLOGICAL COMMENTS
THYROID GLAND(S)	Required tissue. Follicular cyst(s), Minimal.

ANIMAL: ST3F3075 SEX: Female GROUP: 3 DOSE LEVEL: 0.0 mg/kg
DAY/WEEK OF DEATH:5/1 Dosing phase 1 STATUS: Final phase sacrifice TERMINAL BODY WEIGHT (G): 21.0

<< G R O S S O B S E R V A T I O N S >>

TISSUE	GROSS OBSERVATIONS / COMMENTS
GENERAL COMMENT	All organs, no abnormality

<< P A T H O L O G Y O B S E R V A T I O N S >>

TISSUE	HISTOPATHOLOGIC DIAGNOSES / SPECIAL HISTOLOGICAL COMMENTS

ALL PROTOCOL REQUIRED TISSUES NORMAL.

ANIMAL: ST3F3076 SEX: Female GROUP: 3 DOSE LEVEL: 0.0 mg/kg
DAY/WEEK OF DEATH:5/1 Dosing phase 1 STATUS: Final phase sacrifice TERMINAL BODY WEIGHT (G): 21.8

<< G R O S S O B S E R V A T I O N S >>

TISSUE	GROSS OBSERVATIONS / COMMENTS
ADRENAL GLAND(S)	Enlarged, Slight, Bilateral /Preserved as L1.

<< P A T H O L O G Y O B S E R V A T I O N S >>

TISSUE	HISTOPATHOLOGIC DIAGNOSES / SPECIAL HISTOLOGICAL COMMENTS
ADRENAL GLAND(S)	Miscellaneous tissue. Subcapsular cell hyperplasia: focal/multifocal, Slight.

The following tissues are normal:
THYROID GLAND(S)

ANIMAL: ST3F3077 SEX: Female GROUP: 3 DOSE LEVEL: 0.0 mg/kg
DAY/WEEK OF DEATH:5/1 Dosing phase 1 STATUS: Final phase sacrifice TERMINAL BODY WEIGHT (G): 23.7

<< G R O S S O B S E R V A T I O N S >>

TISSUE	GROSS OBSERVATIONS / COMMENTS
GENERAL COMMENT	All organs, no abnormality

<< P A T H O L O G Y O B S E R V A T I O N S >>

TISSUE	HISTOPATHOLOGIC DIAGNOSES / SPECIAL HISTOLOGICAL COMMENTS

ALL PROTOCOL REQUIRED TISSUES NORMAL.

ANIMAL: ST3F3078 SEX: Female GROUP: 3 DOSE LEVEL: 0.0 mg/kg
DAY/WEEK OF DEATH:5/1 Dosing phase 1 STATUS: Final phase sacrifice TERMINAL BODY WEIGHT (G): 22.7

<< G R O S S O B S E R V A T I O N S >>

TISSUE	GROSS OBSERVATIONS / COMMENTS
GENERAL COMMENT	All organs, no abnormality

<< P A T H O L O G Y O B S E R V A T I O N S >>

TISSUE	HISTOPATHOLOGIC DIAGNOSES / SPECIAL HISTOLOGICAL COMMENTS
THYROID GLAND(S)	Required tissue. Follicular cyst(s), Minimal.

ANIMAL: ST3F3079 SEX: Female GROUP: 3 DOSE LEVEL: 0.0 mg/kg
DAY/WEEK OF DEATH:5/1 Dosing phase 1 STATUS: Final phase sacrifice TERMINAL BODY WEIGHT (G): 21.2

<< G R O S S O B S E R V A T I O N S >>

TISSUE	GROSS OBSERVATIONS / COMMENTS
GENERAL COMMENT	All organs, no abnormality

<< P A T H O L O G Y O B S E R V A T I O N S >>

TISSUE	HISTOPATHOLOGIC DIAGNOSES / SPECIAL HISTOLOGICAL COMMENTS
THYROID GLAND(S)	Required tissue. Follicular cyst(s), Minimal.

ANIMAL: ST3F3080 SEX: Female GROUP: 3 DOSE LEVEL: 0.0 mg/kg
DAY/WEEK OF DEATH:5/1 Dosing phase 1 STATUS: Final phase sacrifice TERMINAL BODY WEIGHT (G): 21.9

<< G R O S S O B S E R V A T I O N S >>

TISSUE	GROSS OBSERVATIONS / COMMENTS
GENERAL COMMENT	All organs, no abnormality

<< P A T H O L O G Y O B S E R V A T I O N S >>

TISSUE	HISTOPATHOLOGIC DIAGNOSES / SPECIAL HISTOLOGICAL COMMENTS

ALL PROTOCOL REQUIRED TISSUES NORMAL.

ANIMAL: ST3F3081 SEX: Female GROUP: 3 DOSE LEVEL: 0.0 mg/kg
DAY/WEEK OF DEATH:5/1 Dosing phase 1 STATUS: Final phase sacrifice TERMINAL BODY WEIGHT (G): 21.4

<< G R O S S O B S E R V A T I O N S >>

TISSUE	GROSS OBSERVATIONS / COMMENTS
GENERAL COMMENT	All organs, no abnormality

<< P A T H O L O G Y O B S E R V A T I O N S >>

TISSUE	HISTOPATHOLOGIC DIAGNOSES / SPECIAL HISTOLOGICAL COMMENTS
THYROID GLAND(S)	Required tissue. Follicular cyst(s), Minimal.

ANIMAL: ST3F3082 SEX: Female GROUP: 3 DOSE LEVEL: 0.0 mg/kg
DAY/WEEK OF DEATH:5/1 Dosing phase 1 STATUS: Final phase sacrifice TERMINAL BODY WEIGHT (G): 23.1

<< G R O S S O B S E R V A T I O N S >>

TISSUE	GROSS OBSERVATIONS / COMMENTS
GENERAL COMMENT	All organs, no abnormality

<< P A T H O L O G Y O B S E R V A T I O N S >>

TISSUE	HISTOPATHOLOGIC DIAGNOSES / SPECIAL HISTOLOGICAL COMMENTS

ALL PROTOCOL REQUIRED TISSUES NORMAL.

Bayer CropScience
Center of Toxicology
Sophia-Antipolis
Mouse/B6C3F1

INDIVIDUAL ANIMAL DATA DUMP TABLE
STUDY NUMBER: SA 08160
Dosing phase 1
ANIMAL REFERENCE DATE: 05-Sep-08

Printed: 06-Nov-08
Page: 45
Mechanistic study/Exploratory study

ANIMAL: ST3F3083 SEX: Female GROUP: 3 DOSE LEVEL: 0.0 mg/kg
DAY/WEEK OF DEATH:5/1 Dosing phase 1 STATUS: Final phase sacrifice TERMINAL BODY WEIGHT (G): 20.8

<< G R O S S O B S E R V A T I O N S >>

TISSUE	GROSS OBSERVATIONS / COMMENTS
GENERAL COMMENT	All organs, no abnormality

<< P A T H O L O G Y O B S E R V A T I O N S >>

TISSUE	HISTOPATHOLOGIC DIAGNOSES / SPECIAL HISTOLOGICAL COMMENTS

ALL PROTOCOL REQUIRED TISSUES NORMAL.

ANIMAL: ST4F3084 SEX: Female GROUP: 4 DOSE LEVEL: 0.0 mg/kg
DAY/WEEK OF DEATH:5/1 Dosing phase 1 STATUS: Final phase sacrifice TERMINAL BODY WEIGHT (G): 22.6

<< G R O S S O B S E R V A T I O N S >>

TISSUE	GROSS OBSERVATIONS / COMMENTS
GENERAL COMMENT	All organs, no abnormality

<< P A T H O L O G Y O B S E R V A T I O N S >>

TISSUE	HISTOPATHOLOGIC DIAGNOSES / SPECIAL HISTOLOGICAL COMMENTS

ALL PROTOCOL REQUIRED TISSUES NORMAL.

ANIMAL: ST4F3085 SEX: Female GROUP: 4 DOSE LEVEL: 0.0 mg/kg
DAY/WEEK OF DEATH:5/1 Dosing phase 1 STATUS: Final phase sacrifice TERMINAL BODY WEIGHT (G): 23.0

<< G R O S S O B S E R V A T I O N S >>

TISSUE	GROSS OBSERVATIONS / COMMENTS
GENERAL COMMENT	All organs, no abnormality

<< P A T H O L O G Y O B S E R V A T I O N S >>

TISSUE	HISTOPATHOLOGIC DIAGNOSES / SPECIAL HISTOLOGICAL COMMENTS
LIVER	Miscellaneous tissue. Hepatocellular glycogen accumulation: diffuse, Slight.

The following tissues are normal:
THYROID GLAND(S)

ANIMAL: ST4F3086 SEX: Female GROUP: 4 DOSE LEVEL: 0.0 mg/kg
DAY/WEEK OF DEATH:5/1 Dosing phase 1 STATUS: Final phase sacrifice TERMINAL BODY WEIGHT (G): 23.4

<< G R O S S O B S E R V A T I O N S >>

TISSUE	GROSS OBSERVATIONS / COMMENTS
GENERAL COMMENT	All organs, no abnormality

<< P A T H O L O G Y O B S E R V A T I O N S >>

TISSUE	HISTOPATHOLOGIC DIAGNOSES / SPECIAL HISTOLOGICAL COMMENTS
LIVER	Miscellaneous tissue. Hepatocellular glycogen accumulation: diffuse, Slight.

The following tissues are normal:
THYROID GLAND(S)

ANIMAL: ST4F3087 SEX: Female GROUP: 4 DOSE LEVEL: 0.0 mg/kg
DAY/WEEK OF DEATH:5/1 Dosing phase 1 STATUS: Final phase sacrifice TERMINAL BODY WEIGHT (G): 21.9

<< G R O S S O B S E R V A T I O N S >>

TISSUE	GROSS OBSERVATIONS / COMMENTS
GENERAL COMMENT	All organs, no abnormality

<< P A T H O L O G Y O B S E R V A T I O N S >>

TISSUE	HISTOPATHOLOGIC DIAGNOSES / SPECIAL HISTOLOGICAL COMMENTS
THYROID GLAND(S)	Required tissue. Follicular cyst(s), Minimal.

ANIMAL: ST4F3088 SEX: Female GROUP: 4 DOSE LEVEL: 0.0 mg/kg
DAY/WEEK OF DEATH:5/1 Dosing phase 1 STATUS: Final phase sacrifice TERMINAL BODY WEIGHT (G): 22.5

<< G R O S S O B S E R V A T I O N S >>

TISSUE	GROSS OBSERVATIONS / COMMENTS
GENERAL COMMENT	All organs, no abnormality

<< P A T H O L O G Y O B S E R V A T I O N S >>

TISSUE	HISTOPATHOLOGIC DIAGNOSES / SPECIAL HISTOLOGICAL COMMENTS

ALL PROTOCOL REQUIRED TISSUES NORMAL.

ANIMAL: ST4F3089 SEX: Female GROUP: 4 DOSE LEVEL: 0.0 mg/kg
DAY/WEEK OF DEATH:5/1 Dosing phase 1 STATUS: Final phase sacrifice TERMINAL BODY WEIGHT (G): 21.9

<< G R O S S O B S E R V A T I O N S >>

TISSUE	GROSS OBSERVATIONS / COMMENTS
GENERAL COMMENT	All organs, no abnormality

<< P A T H O L O G Y O B S E R V A T I O N S >>

TISSUE	HISTOPATHOLOGIC DIAGNOSES / SPECIAL HISTOLOGICAL COMMENTS

ALL PROTOCOL REQUIRED TISSUES NORMAL.

ANIMAL: ST4F3090 SEX: Female GROUP: 4 DOSE LEVEL: 0.0 mg/kg
DAY/WEEK OF DEATH:5/1 Dosing phase 1 STATUS: Final phase sacrifice TERMINAL BODY WEIGHT (G): 21.6

<< G R O S S O B S E R V A T I O N S >>

TISSUE	GROSS OBSERVATIONS / COMMENTS
GENERAL COMMENT	All organs, no abnormality

<< P A T H O L O G Y O B S E R V A T I O N S >>

TISSUE	HISTOPATHOLOGIC DIAGNOSES / SPECIAL HISTOLOGICAL COMMENTS

ALL PROTOCOL REQUIRED TISSUES NORMAL.

ANIMAL: ST4F3091 SEX: Female GROUP: 4 DOSE LEVEL: 0.0 mg/kg
DAY/WEEK OF DEATH:5/1 Dosing phase 1 STATUS: Final phase sacrifice TERMINAL BODY WEIGHT (G): 20.5

<< G R O S S O B S E R V A T I O N S >>

TISSUE	GROSS OBSERVATIONS / COMMENTS
GENERAL COMMENT	All organs, no abnormality

<< P A T H O L O G Y O B S E R V A T I O N S >>

TISSUE	HISTOPATHOLOGIC DIAGNOSES / SPECIAL HISTOLOGICAL COMMENTS

ALL PROTOCOL REQUIRED TISSUES NORMAL.

ANIMAL: ST4F3092 SEX: Female GROUP: 4 DOSE LEVEL: 0.0 mg/kg
DAY/WEEK OF DEATH:5/1 Dosing phase 1 STATUS: Final phase sacrifice TERMINAL BODY WEIGHT (G): 22.1

<< G R O S S O B S E R V A T I O N S >>

TISSUE	GROSS OBSERVATIONS / COMMENTS
GENERAL COMMENT	All organs, no abnormality

<< P A T H O L O G Y O B S E R V A T I O N S >>

TISSUE	HISTOPATHOLOGIC DIAGNOSES / SPECIAL HISTOLOGICAL COMMENTS
THYROID GLAND(S)	Required tissue. Ultimo-branchial cyst(s), Present.

ANIMAL: ST4F3093 SEX: Female GROUP: 4 DOSE LEVEL: 0.0 mg/kg
DAY/WEEK OF DEATH:5/1 Dosing phase 1 STATUS: Final phase sacrifice TERMINAL BODY WEIGHT (G): 22.4

<< G R O S S O B S E R V A T I O N S >>

TISSUE	GROSS OBSERVATIONS / COMMENTS
GENERAL COMMENT	All organs, no abnormality

<< P A T H O L O G Y O B S E R V A T I O N S >>

TISSUE	HISTOPATHOLOGIC DIAGNOSES / SPECIAL HISTOLOGICAL COMMENTS
LIVER	Miscellaneous tissue. Hepatocellular glycogen accumulation: diffuse, Slight. Interstitial mononuclear cell infiltrate: focal/multifocal, Minimal.
THYROID GLAND(S)	Required tissue. Ectopic thymic tissue, Present.

ANIMAL: ST4F3094 SEX: Female GROUP: 4 DOSE LEVEL: 0.0 mg/kg
DAY/WEEK OF DEATH:5/1 Dosing phase 1 STATUS: Final phase sacrifice TERMINAL BODY WEIGHT (G): 21.7

<< G R O S S O B S E R V A T I O N S >>

TISSUE	GROSS OBSERVATIONS / COMMENTS
GENERAL COMMENT	All organs, no abnormality

<< P A T H O L O G Y O B S E R V A T I O N S >>

TISSUE	HISTOPATHOLOGIC DIAGNOSES / SPECIAL HISTOLOGICAL COMMENTS

ALL PROTOCOL REQUIRED TISSUES NORMAL.

ANIMAL: ST4F3095 SEX: Female GROUP: 4 DOSE LEVEL: 0.0 mg/kg
DAY/WEEK OF DEATH:5/1 Dosing phase 1 STATUS: Final phase sacrifice TERMINAL BODY WEIGHT (G): 22.9

<< G R O S S O B S E R V A T I O N S >>

TISSUE	GROSS OBSERVATIONS / COMMENTS
GENERAL COMMENT	All organs, no abnormality

<< P A T H O L O G Y O B S E R V A T I O N S >>

TISSUE	HISTOPATHOLOGIC DIAGNOSES / SPECIAL HISTOLOGICAL COMMENTS
THYROID GLAND(S)	Required tissue; one of pair is missing; other is normal.

ANIMAL: ST4F3096 SEX: Female GROUP: 4 DOSE LEVEL: 0.0 mg/kg
DAY/WEEK OF DEATH:5/1 Dosing phase 1 STATUS: Final phase sacrifice TERMINAL BODY WEIGHT (G): 21.2

<< G R O S S O B S E R V A T I O N S >>

TISSUE	GROSS OBSERVATIONS / COMMENTS
GENERAL COMMENT	All organs, no abnormality

<< P A T H O L O G Y O B S E R V A T I O N S >>

TISSUE	HISTOPATHOLOGIC DIAGNOSES / SPECIAL HISTOLOGICAL COMMENTS

ALL PROTOCOL REQUIRED TISSUES NORMAL.

ANIMAL: ST4F3097 SEX: Female GROUP: 4 DOSE LEVEL: 0.0 mg/kg
DAY/WEEK OF DEATH:5/1 Dosing phase 1 STATUS: Final phase sacrifice TERMINAL BODY WEIGHT (G): 23.0

<< G R O S S O B S E R V A T I O N S >>

TISSUE	GROSS OBSERVATIONS / COMMENTS
GENERAL COMMENT	All organs, no abnormality

<< P A T H O L O G Y O B S E R V A T I O N S >>

TISSUE	HISTOPATHOLOGIC DIAGNOSES / SPECIAL HISTOLOGICAL COMMENTS
LIVER	Miscellaneous tissue. Hepatocellular glycogen accumulation: diffuse, Slight.

The following tissues are normal:
THYROID GLAND(S)

ANIMAL: ST4F3098 SEX: Female GROUP: 4 DOSE LEVEL: 0.0 mg/kg
DAY/WEEK OF DEATH:3/1 Dosing phase 1 STATUS: Found dead TERMINAL BODY WEIGHT (G): -----

<< G R O S S O B S E R V A T I O N S >>

TISSUE	GROSS OBSERVATIONS / COMMENTS
GENERAL COMMENT	Autolysis

<< P A T H O L O G Y O B S E R V A T I O N S >>

TISSUE	HISTOPATHOLOGIC DIAGNOSES / SPECIAL HISTOLOGICAL COMMENTS
LIVER	Miscellaneous tissue; autolytic and readable. Hepatocellular glycogen accumulation: diffuse, Slight.
THYROID GLAND(S)	Required tissue is missing.

App. K2 Individual gross and microscopic pathology findings - 14 Days

GROUP	DURATION OF EXPOSURE	TEST SUBSTANCE	DOSE LEVELS	NUMBER OF ANIMALS PER GROUP	ANIMAL IDENTITY	
FEMALES					SG1 (Sept. 04, 2008)	SG2 (Sept. 05, 2008)
1	3 Days	Phenobarbital	80 mg/kg/day	15	ST1F3039 to 3047	ST1F3048 to 3053
2	3 Days	Control	0	15	ST2F3054 to 3059	ST2F3060 to 3068
3	3 Days	TERTIARY BUTANOL	2 mg/mL	15	ST3F3069 to 3077	ST3F3078 to 3083
4	3 Days		20 mg/mL	15	ST4F3084 to 3089	ST4F3090 to 3098
FEMALES					SG1 (Sept. 03, 2008)	SG2 (Sept. 04, 2008)
1	14 Days	Phenobarbital	80 mg/kg/day	15	ST1F3099 to 3107	ST1F3108 to 3113
2	14 Days	Control	0	15	ST2F3114 to 3119	ST2F3120 to 3128
3	14 Days	TERTIARY BUTANOL	2 mg/mL	15	ST3F3129 to 3137	ST3F3138 to 3143
4	14 Days		20 mg/mL	15	ST4F3144 to 3149	ST4F3150 to 3158

Note: The dose level specified for animals in Groups 3 and 4 is 0 mg/kg. This is due to a limitation of the PathTox data capture system used. The actual dose levels are as specified in the above table.

ANIMAL: ST1F3099 SEX: Female GROUP: 1 DOSE LEVEL: 80.0 mg/kg
DAY/WEEK OF DEATH:16/3 Dosing phase 1 STATUS: Final phase sacrifice TERMINAL BODY WEIGHT (G): 23.1

<< G R O S S O B S E R V A T I O N S >>

TISSUE	GROSS OBSERVATIONS / COMMENTS
LIVER	Enlarged, All lobes, Slight, Diffuse

<< P A T H O L O G Y O B S E R V A T I O N S >>

TISSUE	HISTOPATHOLOGIC DIAGNOSES / SPECIAL HISTOLOGICAL COMMENTS

ALL PROTOCOL REQUIRED TISSUES NORMAL.

ANIMAL: ST1F3100 SEX: Female GROUP: 1 DOSE LEVEL: 80.0 mg/kg
DAY/WEEK OF DEATH:16/3 Dosing phase 1 STATUS: Final phase sacrifice TERMINAL BODY WEIGHT (G): 22.2

<< G R O S S O B S E R V A T I O N S >>

TISSUE	GROSS OBSERVATIONS / COMMENTS
GENERAL COMMENT	All organs, no abnormality

<< P A T H O L O G Y O B S E R V A T I O N S >>

TISSUE	HISTOPATHOLOGIC DIAGNOSES / SPECIAL HISTOLOGICAL COMMENTS
LIVER	Miscellaneous tissue. Centrilobular hepatocellular hypertrophy: diffuse, Minimal. Hepatocellular glycogen accumulation: diffuse, Minimal. With loss of glycogen in the centrilobular zone; Interstitial mononuclear cell infiltrate: focal/multifocal, Minimal.

The following tissues are normal:
THYROID GLAND(S)

ANIMAL: ST1F3101 SEX: Female GROUP: 1 DOSE LEVEL: 80.0 mg/kg
DAY/WEEK OF DEATH:16/3 Dosing phase 1 STATUS: Final phase sacrifice TERMINAL BODY WEIGHT (G): 20.0

<< G R O S S O B S E R V A T I O N S >>

TISSUE	GROSS OBSERVATIONS / COMMENTS
GENERAL COMMENT	All organs, no abnormality

<< P A T H O L O G Y O B S E R V A T I O N S >>

TISSUE	HISTOPATHOLOGIC DIAGNOSES / SPECIAL HISTOLOGICAL COMMENTS

ALL PROTOCOL REQUIRED TISSUES NORMAL.

ANIMAL: ST1F3102 SEX: Female GROUP: 1 DOSE LEVEL: 80.0 mg/kg
DAY/WEEK OF DEATH:16/3 Dosing phase 1 STATUS: Final phase sacrifice TERMINAL BODY WEIGHT (G): 21.8

<< G R O S S O B S E R V A T I O N S >>

TISSUE	GROSS OBSERVATIONS / COMMENTS
LIVER	Enlarged, All lobes, Slight, Diffuse

<< P A T H O L O G Y O B S E R V A T I O N S >>

TISSUE	HISTOPATHOLOGIC DIAGNOSES / SPECIAL HISTOLOGICAL COMMENTS

ALL PROTOCOL REQUIRED TISSUES NORMAL.

ANIMAL: ST1F3103 SEX: Female GROUP: 1 DOSE LEVEL: 80.0 mg/kg
DAY/WEEK OF DEATH:16/3 Dosing phase 1 STATUS: Final phase sacrifice TERMINAL BODY WEIGHT (G): 21.2

<< G R O S S O B S E R V A T I O N S >>

TISSUE	GROSS OBSERVATIONS / COMMENTS
LIVER	Enlarged, All lobes, Slight, Diffuse

<< P A T H O L O G Y O B S E R V A T I O N S >>

TISSUE	HISTOPATHOLOGIC DIAGNOSES / SPECIAL HISTOLOGICAL COMMENTS
THYROID GLAND(S)	Required tissue. C cell hyperplasia: focal/multifocal, Minimal.

ANIMAL: ST1F3104 SEX: Female GROUP: 1 DOSE LEVEL: 80.0 mg/kg
DAY/WEEK OF DEATH:16/3 Dosing phase 1 STATUS: Final phase sacrifice TERMINAL BODY WEIGHT (G): 19.6

<< G R O S S O B S E R V A T I O N S >>

TISSUE	GROSS OBSERVATIONS / COMMENTS
LIVER	Enlarged, All lobes, Slight, Diffuse

<< P A T H O L O G Y O B S E R V A T I O N S >>

TISSUE	HISTOPATHOLOGIC DIAGNOSES / SPECIAL HISTOLOGICAL COMMENTS

ALL PROTOCOL REQUIRED TISSUES NORMAL.

ANIMAL: ST1F3105 SEX: Female GROUP: 1 DOSE LEVEL: 80.0 mg/kg
DAY/WEEK OF DEATH:16/3 Dosing phase 1 STATUS: Final phase sacrifice TERMINAL BODY WEIGHT (G): 22.0

<< G R O S S O B S E R V A T I O N S >>

TISSUE	GROSS OBSERVATIONS / COMMENTS
LIVER	Enlarged, All lobes, Slight, Diffuse

<< P A T H O L O G Y O B S E R V A T I O N S >>

TISSUE	HISTOPATHOLOGIC DIAGNOSES / SPECIAL HISTOLOGICAL COMMENTS
LIVER	Miscellaneous tissue. Centrilobular hepatocellular hypertrophy: diffuse, Minimal. Hepatocellular glycogen accumulation: diffuse, Minimal. With loss of glycogen in the centrilobular zone; Interstitial mononuclear cell infiltrate: focal/multifocal, Minimal.

The following tissues are normal:
THYROID GLAND(S)

Bayer CropScience
Center of Toxicology
Sophia-Antipolis
Mouse/B6C3F1

INDIVIDUAL ANIMAL DATA DUMP TABLE
STUDY NUMBER: SA-08160
Dosing phase 1
ANIMAL REFERENCE DATE: 03-Sep-08

Printed: 13-Mar-09
Page: 8
Mechanistic study/Exploratory study

ANIMAL: ST1F3106 SEX: Female GROUP: 1 DOSE LEVEL: 80.0 mg/kg
DAY/WEEK OF DEATH:16/3 Dosing phase 1 STATUS: Final phase sacrifice TERMINAL BODY WEIGHT (G): 22.1

<< G R O S S O B S E R V A T I O N S >>

TISSUE	GROSS OBSERVATIONS / COMMENTS
LIVER	Enlarged, All lobes, Minimal, Diffuse

<< P A T H O L O G Y O B S E R V A T I O N S >>

TISSUE	HISTOPATHOLOGIC DIAGNOSES / SPECIAL HISTOLOGICAL COMMENTS
THYROID GLAND(S)	Required tissue is missing.

ANIMAL: ST1F3107 SEX: Female GROUP: 1 DOSE LEVEL: 80.0 mg/kg
DAY/WEEK OF DEATH:16/3 Dosing phase 1 STATUS: Final phase sacrifice TERMINAL BODY WEIGHT (G): 20.5

<< G R O S S O B S E R V A T I O N S >>

TISSUE	GROSS OBSERVATIONS / COMMENTS
LIVER	Enlarged, All lobes, Slight, Diffuse

<< P A T H O L O G Y O B S E R V A T I O N S >>

TISSUE	HISTOPATHOLOGIC DIAGNOSES / SPECIAL HISTOLOGICAL COMMENTS
LIVER	Miscellaneous tissue. Centrilobular hepatocellular hypertrophy: diffuse, Slight. Hepatocellular glycogen accumulation: diffuse, Slight. With loss of glycogen in the centrilobular zone; Interstitial mononuclear cell infiltrate: focal/multifocal, Minimal.

The following tissues are normal:
THYROID GLAND(S)

ANIMAL: ST1F3108 SEX: Female GROUP: 1 DOSE LEVEL: 80.0 mg/kg
DAY/WEEK OF DEATH:16/3 Dosing phase 1 STATUS: Final phase sacrifice TERMINAL BODY WEIGHT (G): 19.1

<< G R O S S O B S E R V A T I O N S >>

TISSUE	GROSS OBSERVATIONS / COMMENTS
LIVER	Enlarged, All lobes, Minimal, Diffuse

<< P A T H O L O G Y O B S E R V A T I O N S >>

TISSUE	HISTOPATHOLOGIC DIAGNOSES / SPECIAL HISTOLOGICAL COMMENTS

ALL PROTOCOL REQUIRED TISSUES NORMAL.

ANIMAL: ST1F3109 SEX: Female GROUP: 1 DOSE LEVEL: 80.0 mg/kg
DAY/WEEK OF DEATH:16/3 Dosing phase 1 STATUS: Final phase sacrifice TERMINAL BODY WEIGHT (G): 19.7

<< G R O S S O B S E R V A T I O N S >>

TISSUE	GROSS OBSERVATIONS / COMMENTS
LIVER	Enlarged, All lobes, Minimal, Diffuse

<< P A T H O L O G Y O B S E R V A T I O N S >>

TISSUE	HISTOPATHOLOGIC DIAGNOSES / SPECIAL HISTOLOGICAL COMMENTS

ALL PROTOCOL REQUIRED TISSUES NORMAL.

Bayer CropScience
Center of Toxicology
Sophia-Antipolis
Mouse/B6C3F1

INDIVIDUAL ANIMAL DATA DUMP TABLE
STUDY NUMBER: SA-08160
Dosing phase 1
ANIMAL REFERENCE DATE: 04-Sep-08

Printed: 13-Mar-09
Page: 12
Mechanistic study/Exploratory study

ANIMAL: ST1F3110 SEX: Female GROUP: 1 DOSE LEVEL: 80.0 mg/kg
DAY/WEEK OF DEATH:16/3 Dosing phase 1 STATUS: Final phase sacrifice TERMINAL BODY WEIGHT (G): 20.0

<< G R O S S O B S E R V A T I O N S >>

TISSUE	GROSS OBSERVATIONS / COMMENTS
LIVER	Mottled, white, Caudate lobe(s), Moderate /Preserved as L1. Enlarged, All lobes, Moderate, Diffuse

<< P A T H O L O G Y O B S E R V A T I O N S >>

TISSUE	HISTOPATHOLOGIC DIAGNOSES / SPECIAL HISTOLOGICAL COMMENTS
LIVER	Miscellaneous tissue. Lobar torsion, Present. Associated with hepatocellular necrosis. Focal.

The following tissues are normal:
THYROID GLAND(S)

ANIMAL: ST1F3111 SEX: Female GROUP: 1 DOSE LEVEL: 80.0 mg/kg
DAY/WEEK OF DEATH:16/3 Dosing phase 1 STATUS: Final phase sacrifice TERMINAL BODY WEIGHT (G): 22.9

<< G R O S S O B S E R V A T I O N S >>

TISSUE	GROSS OBSERVATIONS / COMMENTS
LIVER	Enlarged, All lobes, Slight, Diffuse

<< P A T H O L O G Y O B S E R V A T I O N S >>

TISSUE	HISTOPATHOLOGIC DIAGNOSES / SPECIAL HISTOLOGICAL COMMENTS
LIVER	Miscellaneous tissue. Centrilobular hepatocellular hypertrophy: diffuse, Minimal. Hepatocellular glycogen accumulation: diffuse, Minimal. With loss of glycogen in the centrilobular zone; Interstitial mononuclear cell infiltrate: focal/multifocal, Minimal.
THYROID GLAND(S)	Required tissue. Follicular cyst(s), Minimal.

ANIMAL: ST1F3112 SEX: Female GROUP: 1 DOSE LEVEL: 80.0 mg/kg
DAY/WEEK OF DEATH:16/3 Dosing phase 1 STATUS: Final phase sacrifice TERMINAL BODY WEIGHT (G): 19.8

<< G R O S S O B S E R V A T I O N S >>

TISSUE	GROSS OBSERVATIONS / COMMENTS
LIVER	Enlarged, All lobes, Minimal, Diffuse

<< P A T H O L O G Y O B S E R V A T I O N S >>

TISSUE	HISTOPATHOLOGIC DIAGNOSES / SPECIAL HISTOLOGICAL COMMENTS
LIVER	Miscellaneous tissue. Centrilobular hepatocellular hypertrophy: diffuse, Minimal. Hepatocellular glycogen accumulation: diffuse, Slight. With loss of glycogen in the centrilobular zone; Interstitial mononuclear cell infiltrate: focal/multifocal, Minimal.
THYROID GLAND(S)	Required tissue. Follicular cyst(s), Minimal.

ANIMAL: ST1F3113 SEX: Female GROUP: 1 DOSE LEVEL: 80.0 mg/kg
DAY/WEEK OF DEATH:16/3 Dosing phase 1 STATUS: Final phase sacrifice TERMINAL BODY WEIGHT (G): 20.7

<< G R O S S O B S E R V A T I O N S >>

TISSUE	GROSS OBSERVATIONS / COMMENTS
THYROID GLAND(S)	Enlarged, Minimal, Bilateral, Diffuse
LIVER	Enlarged, All lobes, Slight, Diffuse

<< P A T H O L O G Y O B S E R V A T I O N S >>

TISSUE	HISTOPATHOLOGIC DIAGNOSES / SPECIAL HISTOLOGICAL COMMENTS
ALL PROTOCOL REQUIRED TISSUES NORMAL.	

ANIMAL: ST2F3114 SEX: Female GROUP: 2 DOSE LEVEL: 0.0 mg/kg
DAY/WEEK OF DEATH:16/3 Dosing phase 1 STATUS: Final phase sacrifice TERMINAL BODY WEIGHT (G): 21.5

<< G R O S S O B S E R V A T I O N S >>

TISSUE	GROSS OBSERVATIONS / COMMENTS
GENERAL COMMENT	All organs, no abnormality

<< P A T H O L O G Y O B S E R V A T I O N S >>

TISSUE	HISTOPATHOLOGIC DIAGNOSES / SPECIAL HISTOLOGICAL COMMENTS
LIVER	Miscellaneous tissue. Hepatocellular glycogen accumulation: diffuse, Slight. Interstitial mononuclear cell infiltrate: focal/multifocal, Minimal.

The following tissues are normal:
THYROID GLAND(S)

ANIMAL: ST2F3115 SEX: Female GROUP: 2 DOSE LEVEL: 0.0 mg/kg
DAY/WEEK OF DEATH:16/3 Dosing phase 1 STATUS: Final phase sacrifice TERMINAL BODY WEIGHT (G): 22.9

<< G R O S S O B S E R V A T I O N S >>

TISSUE	GROSS OBSERVATIONS / COMMENTS
GENERAL COMMENT	All organs, no abnormality

<< P A T H O L O G Y O B S E R V A T I O N S >>

TISSUE	HISTOPATHOLOGIC DIAGNOSES / SPECIAL HISTOLOGICAL COMMENTS

ALL PROTOCOL REQUIRED TISSUES NORMAL.

Bayer CropScience
Center of Toxicology
Sophia-Antipolis
Mouse/B6C3F1

INDIVIDUAL ANIMAL DATA DUMP TABLE
STUDY NUMBER: SA-08160
Dosing phase 1
ANIMAL REFERENCE DATE: 03-Sep-08

Printed: 13-Mar-09
Page: 18

Mechanistic study/Exploratory study

ANIMAL: ST2F3116 SEX: Female GROUP: 2 DOSE LEVEL: 0.0 mg/kg
DAY/WEEK OF DEATH:16/3 Dosing phase 1 STATUS: Final phase sacrifice TERMINAL BODY WEIGHT (G): 20.9

<< G R O S S O B S E R V A T I O N S >>

TISSUE	GROSS OBSERVATIONS / COMMENTS
GENERAL COMMENT	All organs, no abnormality

<< P A T H O L O G Y O B S E R V A T I O N S >>

TISSUE	HISTOPATHOLOGIC DIAGNOSES / SPECIAL HISTOLOGICAL COMMENTS

ALL PROTOCOL REQUIRED TISSUES NORMAL.

ANIMAL: ST2F3117 SEX: Female GROUP: 2 DOSE LEVEL: 0.0 mg/kg
DAY/WEEK OF DEATH:16/3 Dosing phase 1 STATUS: Final phase sacrifice TERMINAL BODY WEIGHT (G): 21.6

<< G R O S S O B S E R V A T I O N S >>

TISSUE	GROSS OBSERVATIONS / COMMENTS
GENERAL COMMENT	All organs, no abnormality

<< P A T H O L O G Y O B S E R V A T I O N S >>

TISSUE	HISTOPATHOLOGIC DIAGNOSES / SPECIAL HISTOLOGICAL COMMENTS

ALL PROTOCOL REQUIRED TISSUES NORMAL.

ANIMAL: ST2F3118 SEX: Female GROUP: 2 DOSE LEVEL: 0.0 mg/kg
DAY/WEEK OF DEATH:16/3 Dosing phase 1 STATUS: Final phase sacrifice TERMINAL BODY WEIGHT (G): 21.8

<< G R O S S O B S E R V A T I O N S >>

TISSUE	GROSS OBSERVATIONS / COMMENTS
GENERAL COMMENT	All organs, no abnormality

<< P A T H O L O G Y O B S E R V A T I O N S >>

TISSUE	HISTOPATHOLOGIC DIAGNOSES / SPECIAL HISTOLOGICAL COMMENTS
LIVER	Miscellaneous tissue. Hepatocellular glycogen accumulation: diffuse, Slight. Interstitial mononuclear cell infiltrate: focal/multifocal, Minimal.
THYROID GLAND(S)	Required tissue. Ectopic thymic tissue, Present.

ANIMAL: ST2F3119 SEX: Female GROUP: 2 DOSE LEVEL: 0.0 mg/kg
DAY/WEEK OF DEATH:16/3 Dosing phase 1 STATUS: Final phase sacrifice TERMINAL BODY WEIGHT (G): 24.2

<< G R O S S O B S E R V A T I O N S >>

TISSUE	GROSS OBSERVATIONS / COMMENTS
GENERAL COMMENT	All organs, no abnormality

<< P A T H O L O G Y O B S E R V A T I O N S >>

TISSUE	HISTOPATHOLOGIC DIAGNOSES / SPECIAL HISTOLOGICAL COMMENTS
THYROID GLAND(S)	Required tissue; one of pair is missing; other is normal.

ANIMAL: ST2F3120 SEX: Female GROUP: 2 DOSE LEVEL: 0.0 mg/kg
DAY/WEEK OF DEATH:16/3 Dosing phase 1 STATUS: Final phase sacrifice TERMINAL BODY WEIGHT (G): 23.2

<< G R O S S O B S E R V A T I O N S >>

TISSUE	GROSS OBSERVATIONS / COMMENTS
GENERAL COMMENT	All organs, no abnormality

<< P A T H O L O G Y O B S E R V A T I O N S >>

TISSUE	HISTOPATHOLOGIC DIAGNOSES / SPECIAL HISTOLOGICAL COMMENTS
LIVER	Miscellaneous tissue. Hepatocellular glycogen accumulation: diffuse, Slight. Interstitial mononuclear cell infiltrate: focal/multifocal, Minimal. Interstitial mixed cell infiltrate: focal/multifocal, Slight. /Ectopic pancreatic tissue.
THYROID GLAND(S)	Required tissue is missing.

ANIMAL: ST2F3121 SEX: Female GROUP: 2 DOSE LEVEL: 0.0 mg/kg
DAY/WEEK OF DEATH:16/3 Dosing phase 1 STATUS: Final phase sacrifice TERMINAL BODY WEIGHT (G): 21.4

<< G R O S S O B S E R V A T I O N S >>

TISSUE	GROSS OBSERVATIONS / COMMENTS
GENERAL COMMENT	All organs, no abnormality

<< P A T H O L O G Y O B S E R V A T I O N S >>

TISSUE	HISTOPATHOLOGIC DIAGNOSES / SPECIAL HISTOLOGICAL COMMENTS
THYROID GLAND(S)	Required tissue. Follicular cyst(s), Minimal.

ANIMAL: ST2F3122 SEX: Female GROUP: 2 DOSE LEVEL: 0.0 mg/kg
DAY/WEEK OF DEATH:16/3 Dosing phase 1 STATUS: Final phase sacrifice TERMINAL BODY WEIGHT (G): 21.6

<< G R O S S O B S E R V A T I O N S >>

TISSUE	GROSS OBSERVATIONS / COMMENTS
LIVER	Dark, Caudate lobe(s), Marked, Single /Preserved as L1.

<< P A T H O L O G Y O B S E R V A T I O N S >>

TISSUE	HISTOPATHOLOGIC DIAGNOSES / SPECIAL HISTOLOGICAL COMMENTS
LIVER	Miscellaneous tissue. Lobar torsion, Present. Associated with hepatocellular necrosis, focal.

The following tissues are normal:
THYROID GLAND(S)

ANIMAL: ST2F3123 SEX: Female GROUP: 2 DOSE LEVEL: 0.0 mg/kg
DAY/WEEK OF DEATH:16/3 Dosing phase 1 STATUS: Final phase sacrifice TERMINAL BODY WEIGHT (G): 20.6

<< G R O S S O B S E R V A T I O N S >>

TISSUE	GROSS OBSERVATIONS / COMMENTS
GENERAL COMMENT	All organs, no abnormality

<< P A T H O L O G Y O B S E R V A T I O N S >>

TISSUE	HISTOPATHOLOGIC DIAGNOSES / SPECIAL HISTOLOGICAL COMMENTS
LIVER	Miscellaneous tissue. Hepatocellular glycogen accumulation: diffuse, Slight. Interstitial mixed cell infiltrate: focal/multifocal, Minimal.

The following tissues are normal:
THYROID GLAND(S)

ANIMAL: ST2F3124 SEX: Female GROUP: 2 DOSE LEVEL: 0.0 mg/kg
DAY/WEEK OF DEATH:16/3 Dosing phase 1 STATUS: Final phase sacrifice TERMINAL BODY WEIGHT (G): 19.5

<< G R O S S O B S E R V A T I O N S >>

TISSUE	GROSS OBSERVATIONS / COMMENTS
GENERAL COMMENT	All organs, no abnormality

<< P A T H O L O G Y O B S E R V A T I O N S >>

TISSUE	HISTOPATHOLOGIC DIAGNOSES / SPECIAL HISTOLOGICAL COMMENTS

ALL PROTOCOL REQUIRED TISSUES NORMAL.

ANIMAL: ST2F3125 SEX: Female GROUP: 2 DOSE LEVEL: 0.0 mg/kg
DAY/WEEK OF DEATH:16/3 Dosing phase 1 STATUS: Final phase sacrifice TERMINAL BODY WEIGHT (G): 21.8

<< G R O S S O B S E R V A T I O N S >>

TISSUE	GROSS OBSERVATIONS / COMMENTS
GENERAL COMMENT	All organs, no abnormality

<< P A T H O L O G Y O B S E R V A T I O N S >>

TISSUE	HISTOPATHOLOGIC DIAGNOSES / SPECIAL HISTOLOGICAL COMMENTS
THYROID GLAND(S)	Required tissue. Follicular cyst(s), Slight.

ANIMAL: ST2F3126 SEX: Female GROUP: 2 DOSE LEVEL: 0.0 mg/kg
DAY/WEEK OF DEATH:16/3 Dosing phase 1 STATUS: Final phase sacrifice TERMINAL BODY WEIGHT (G): 24.1

<< G R O S S O B S E R V A T I O N S >>

TISSUE	GROSS OBSERVATIONS / COMMENTS
GENERAL COMMENT	All organs, no abnormality

<< P A T H O L O G Y O B S E R V A T I O N S >>

TISSUE	HISTOPATHOLOGIC DIAGNOSES / SPECIAL HISTOLOGICAL COMMENTS

ALL PROTOCOL REQUIRED TISSUES NORMAL.

ANIMAL: ST2F3127 SEX: Female GROUP: 2 DOSE LEVEL: 0.0 mg/kg
DAY/WEEK OF DEATH:16/3 Dosing phase 1 STATUS: Final phase sacrifice TERMINAL BODY WEIGHT (G): 22.8

<< G R O S S O B S E R V A T I O N S >>

TISSUE	GROSS OBSERVATIONS / COMMENTS
GENERAL COMMENT	All organs, no abnormality

<< P A T H O L O G Y O B S E R V A T I O N S >>

TISSUE	HISTOPATHOLOGIC DIAGNOSES / SPECIAL HISTOLOGICAL COMMENTS
LIVER	Miscellaneous tissue. Hepatocellular glycogen accumulation: diffuse, Slight. Interstitial mononuclear cell infiltrate: focal/multifocal, Minimal. Interstitial mixed cell infiltrate: focal/multifocal, Minimal.

The following tissues are normal:
THYROID GLAND(S)

ANIMAL: ST2F3128 SEX: Female GROUP: 2 DOSE LEVEL: 0.0 mg/kg
DAY/WEEK OF DEATH:16/3 Dosing phase 1 STATUS: Final phase sacrifice TERMINAL BODY WEIGHT (G): 20.9

<< G R O S S O B S E R V A T I O N S >>

TISSUE	GROSS OBSERVATIONS / COMMENTS
GENERAL COMMENT	All organs, no abnormality

<< P A T H O L O G Y O B S E R V A T I O N S >>

TISSUE	HISTOPATHOLOGIC DIAGNOSES / SPECIAL HISTOLOGICAL COMMENTS
THYROID GLAND(S)	Required tissue. Ectopic thymic tissue, Present.

ANIMAL: ST3F3129 SEX: Female GROUP: 3 DOSE LEVEL: 0.0 mg/kg
DAY/WEEK OF DEATH:16/3 Dosing phase 1 STATUS: Final phase sacrifice TERMINAL BODY WEIGHT (G): 22.2

<< G R O S S O B S E R V A T I O N S >>

TISSUE	GROSS OBSERVATIONS / COMMENTS
GENERAL COMMENT	All organs, no abnormality

<< P A T H O L O G Y O B S E R V A T I O N S >>

TISSUE	HISTOPATHOLOGIC DIAGNOSES / SPECIAL HISTOLOGICAL COMMENTS
LIVER	Miscellaneous tissue. Hepatocellular glycogen accumulation: diffuse, Slight.

The following tissues are normal:
THYROID GLAND(S)

ANIMAL: ST3F3130 SEX: Female GROUP: 3 DOSE LEVEL: 0.0 mg/kg
DAY/WEEK OF DEATH:16/3 Dosing phase 1 STATUS: Final phase sacrifice TERMINAL BODY WEIGHT (G): 22.3

<< G R O S S O B S E R V A T I O N S >>

TISSUE	GROSS OBSERVATIONS / COMMENTS
GENERAL COMMENT	All organs, no abnormality

<< P A T H O L O G Y O B S E R V A T I O N S >>

TISSUE	HISTOPATHOLOGIC DIAGNOSES / SPECIAL HISTOLOGICAL COMMENTS

ALL PROTOCOL REQUIRED TISSUES NORMAL.

ANIMAL: ST3F3131 SEX: Female GROUP: 3 DOSE LEVEL: 0.0 mg/kg
DAY/WEEK OF DEATH:16/3 Dosing phase 1 STATUS: Final phase sacrifice TERMINAL BODY WEIGHT (G): 22.0

<< G R O S S O B S E R V A T I O N S >>

TISSUE	GROSS OBSERVATIONS / COMMENTS
GENERAL COMMENT	All organs, no abnormality

<< P A T H O L O G Y O B S E R V A T I O N S >>

TISSUE	HISTOPATHOLOGIC DIAGNOSES / SPECIAL HISTOLOGICAL COMMENTS
THYROID GLAND(S)	Required tissue. Ectopic thymic tissue, Present.

ANIMAL: ST3F3132 SEX: Female GROUP: 3 DOSE LEVEL: 0.0 mg/kg
DAY/WEEK OF DEATH:16/3 Dosing phase 1 STATUS: Final phase sacrifice TERMINAL BODY WEIGHT (G): 22.4

<< G R O S S O B S E R V A T I O N S >>

TISSUE	GROSS OBSERVATIONS / COMMENTS
LIVER	Enlarged, All lobes, Slight, Diffuse

<< P A T H O L O G Y O B S E R V A T I O N S >>

TISSUE	HISTOPATHOLOGIC DIAGNOSES / SPECIAL HISTOLOGICAL COMMENTS

ALL PROTOCOL REQUIRED TISSUES NORMAL.

ANIMAL: ST3F3133 SEX: Female GROUP: 3 DOSE LEVEL: 0.0 mg/kg
DAY/WEEK OF DEATH:16/3 Dosing phase 1 STATUS: Final phase sacrifice TERMINAL BODY WEIGHT (G): 23.4

<< G R O S S O B S E R V A T I O N S >>

TISSUE	GROSS OBSERVATIONS / COMMENTS
GENERAL COMMENT	All organs, no abnormality

<< P A T H O L O G Y O B S E R V A T I O N S >>

TISSUE	HISTOPATHOLOGIC DIAGNOSES / SPECIAL HISTOLOGICAL COMMENTS

ALL PROTOCOL REQUIRED TISSUES NORMAL.

ANIMAL: ST3F3134 SEX: Female GROUP: 3 DOSE LEVEL: 0.0 mg/kg
DAY/WEEK OF DEATH:16/3 Dosing phase 1 STATUS: Final phase sacrifice TERMINAL BODY WEIGHT (G): 22.5

<< G R O S S O B S E R V A T I O N S >>

TISSUE	GROSS OBSERVATIONS / COMMENTS
LIVER	Focus(i), red, Caudate lobe(s), Multifocal, Pinpoint /Preserved as L1.

<< P A T H O L O G Y O B S E R V A T I O N S >>

TISSUE	HISTOPATHOLOGIC DIAGNOSES / SPECIAL HISTOLOGICAL COMMENTS
LIVER	Miscellaneous tissue. Hepatocellular glycogen accumulation: diffuse, Slight. Interstitial mixed cell infiltrate: focal/multifocal, Minimal. Lobar torsion, Present. Associated with hepatocellular proloferation, focal.

The following tissues are normal:
THYROID GLAND(S)

ANIMAL: ST3F3135 SEX: Female GROUP: 3 DOSE LEVEL: 0.0 mg/kg
DAY/WEEK OF DEATH:16/3 Dosing phase 1 STATUS: Final phase sacrifice TERMINAL BODY WEIGHT (G): 22.5

<< G R O S S O B S E R V A T I O N S >>

TISSUE	GROSS OBSERVATIONS / COMMENTS
GENERAL COMMENT	All organs, no abnormality

<< P A T H O L O G Y O B S E R V A T I O N S >>

TISSUE	HISTOPATHOLOGIC DIAGNOSES / SPECIAL HISTOLOGICAL COMMENTS

ALL PROTOCOL REQUIRED TISSUES NORMAL.

ANIMAL: ST3F3136 SEX: Female GROUP: 3 DOSE LEVEL: 0.0 mg/kg
DAY/WEEK OF DEATH:16/3 Dosing phase 1 STATUS: Final phase sacrifice TERMINAL BODY WEIGHT (G): 22.4

<< G R O S S O B S E R V A T I O N S >>

TISSUE	GROSS OBSERVATIONS / COMMENTS
LIVER	Enlarged, All lobes, Minimal, Diffuse

<< P A T H O L O G Y O B S E R V A T I O N S >>

TISSUE	HISTOPATHOLOGIC DIAGNOSES / SPECIAL HISTOLOGICAL COMMENTS
LIVER	Miscellaneous tissue. Hepatocellular glycogen accumulation: diffuse, Slight. Interstitial mononuclear cell infiltrate: focal/multifocal, Minimal. Interstitial mixed cell infiltrate: focal/multifocal, Minimal.

The following tissues are normal:
THYROID GLAND(S)

ANIMAL: ST3F3137 SEX: Female GROUP: 3 DOSE LEVEL: 0.0 mg/kg
DAY/WEEK OF DEATH:16/3 Dosing phase 1 STATUS: Final phase sacrifice TERMINAL BODY WEIGHT (G): 21.1

<< G R O S S O B S E R V A T I O N S >>

TISSUE	GROSS OBSERVATIONS / COMMENTS
GENERAL COMMENT	All organs, no abnormality

<< P A T H O L O G Y O B S E R V A T I O N S >>

TISSUE	HISTOPATHOLOGIC DIAGNOSES / SPECIAL HISTOLOGICAL COMMENTS

ALL PROTOCOL REQUIRED TISSUES NORMAL.

ANIMAL: ST3F3138 SEX: Female GROUP: 3 DOSE LEVEL: 0.0 mg/kg
DAY/WEEK OF DEATH:16/3 Dosing phase 1 STATUS: Final phase sacrifice TERMINAL BODY WEIGHT (G): 23.1

<< G R O S S O B S E R V A T I O N S >>

TISSUE	GROSS OBSERVATIONS / COMMENTS
GENERAL COMMENT	All organs, no abnormality

<< P A T H O L O G Y O B S E R V A T I O N S >>

TISSUE	HISTOPATHOLOGIC DIAGNOSES / SPECIAL HISTOLOGICAL COMMENTS
LIVER	Miscellaneous tissue. Hepatocellular glycogen accumulation: diffuse, Slight. Interstitial mononuclear cell infiltrate: focal/multifocal, Minimal.

The following tissues are normal:
THYROID GLAND(S)

ANIMAL: ST3F3139 SEX: Female GROUP: 3 DOSE LEVEL: 0.0 mg/kg
DAY/WEEK OF DEATH:16/3 Dosing phase 1 STATUS: Final phase sacrifice TERMINAL BODY WEIGHT (G): 20.5

<< G R O S S O B S E R V A T I O N S >>

TISSUE	GROSS OBSERVATIONS / COMMENTS
GENERAL COMMENT	All organs, no abnormality

<< P A T H O L O G Y O B S E R V A T I O N S >>

TISSUE	HISTOPATHOLOGIC DIAGNOSES / SPECIAL HISTOLOGICAL COMMENTS

ALL PROTOCOL REQUIRED TISSUES NORMAL.

ANIMAL: ST3F3140 SEX: Female GROUP: 3 DOSE LEVEL: 0.0 mg/kg
DAY/WEEK OF DEATH:16/3 Dosing phase 1 STATUS: Final phase sacrifice TERMINAL BODY WEIGHT (G): 21.5

<< G R O S S O B S E R V A T I O N S >>

TISSUE	GROSS OBSERVATIONS / COMMENTS
GENERAL COMMENT	All organs, no abnormality

<< P A T H O L O G Y O B S E R V A T I O N S >>

TISSUE	HISTOPATHOLOGIC DIAGNOSES / SPECIAL HISTOLOGICAL COMMENTS

ALL PROTOCOL REQUIRED TISSUES NORMAL.

ANIMAL: ST3F3141 SEX: Female GROUP: 3 DOSE LEVEL: 0.0 mg/kg
DAY/WEEK OF DEATH:16/3 Dosing phase 1 STATUS: Final phase sacrifice TERMINAL BODY WEIGHT (G): 21.8

<< G R O S S O B S E R V A T I O N S >>

TISSUE	GROSS OBSERVATIONS / COMMENTS
LIVER	Enlarged, All lobes, Minimal, Diffuse

<< P A T H O L O G Y O B S E R V A T I O N S >>

TISSUE	HISTOPATHOLOGIC DIAGNOSES / SPECIAL HISTOLOGICAL COMMENTS
LIVER	Miscellaneous tissue. Hepatocellular glycogen accumulation: diffuse, Slight. Interstitial mononuclear cell infiltrate: focal/multifocal, Minimal.
THYROID GLAND(S)	Required tissue; one of pair is missing; other is normal. /Incomplete cut section

ANIMAL: ST3F3142 SEX: Female GROUP: 3 DOSE LEVEL: 0.0 mg/kg
DAY/WEEK OF DEATH:16/3 Dosing phase 1 STATUS: Final phase sacrifice TERMINAL BODY WEIGHT (G): 22.8

<< G R O S S O B S E R V A T I O N S >>

TISSUE	GROSS OBSERVATIONS / COMMENTS
GENERAL COMMENT	All organs, no abnormality

<< P A T H O L O G Y O B S E R V A T I O N S >>

TISSUE	HISTOPATHOLOGIC DIAGNOSES / SPECIAL HISTOLOGICAL COMMENTS

ALL PROTOCOL REQUIRED TISSUES NORMAL.

ANIMAL: ST3F3143 SEX: Female GROUP: 3 DOSE LEVEL: 0.0 mg/kg
DAY/WEEK OF DEATH:16/3 Dosing phase 1 STATUS: Final phase sacrifice TERMINAL BODY WEIGHT (G): 21.1

<< G R O S S O B S E R V A T I O N S >>

TISSUE	GROSS OBSERVATIONS / COMMENTS
GENERAL COMMENT	All organs, no abnormality

<< P A T H O L O G Y O B S E R V A T I O N S >>

TISSUE	HISTOPATHOLOGIC DIAGNOSES / SPECIAL HISTOLOGICAL COMMENTS

ALL PROTOCOL REQUIRED TISSUES NORMAL.

ANIMAL: ST4F3144 SEX: Female GROUP: 4 DOSE LEVEL: 0.0 mg/kg
DAY/WEEK OF DEATH:16/3 Dosing phase 1 STATUS: Final phase sacrifice TERMINAL BODY WEIGHT (G): 23.5

<< G R O S S O B S E R V A T I O N S >>

TISSUE	GROSS OBSERVATIONS / COMMENTS
LIVER	Enlarged, All lobes, Minimal, Diffuse

<< P A T H O L O G Y O B S E R V A T I O N S >>

TISSUE	HISTOPATHOLOGIC DIAGNOSES / SPECIAL HISTOLOGICAL COMMENTS
THYROID GLAND(S)	Required tissue. C cell hyperplasia: focal/multifocal, Minimal.

ANIMAL: ST4F3145 SEX: Female GROUP: 4 DOSE LEVEL: 0.0 mg/kg
DAY/WEEK OF DEATH:16/3 Dosing phase 1 STATUS: Final phase sacrifice TERMINAL BODY WEIGHT (G): 21.2

<< G R O S S O B S E R V A T I O N S >>

TISSUE	GROSS OBSERVATIONS / COMMENTS
GENERAL COMMENT	All organs, no abnormality

<< P A T H O L O G Y O B S E R V A T I O N S >>

TISSUE	HISTOPATHOLOGIC DIAGNOSES / SPECIAL HISTOLOGICAL COMMENTS
LIVER	Miscellaneous tissue. Centrilobular hepatocellular hypertrophy: diffuse, Slight. Increased number of mitoses, Minimal. Hepatocellular glycogen accumulation: diffuse, Slight. With loss of glycogen in the centrilobular zone; Interstitial mononuclear cell infiltrate: focal/multifocal, Minimal.

The following tissues are normal:
THYROID GLAND(S)

ANIMAL: ST4F3146 SEX: Female GROUP: 4 DOSE LEVEL: 0.0 mg/kg
DAY/WEEK OF DEATH:16/3 Dosing phase 1 STATUS: Final phase sacrifice TERMINAL BODY WEIGHT (G): 23.4

<< G R O S S O B S E R V A T I O N S >>

TISSUE	GROSS OBSERVATIONS / COMMENTS
LIVER	Enlarged, All lobes, Minimal, Diffuse
SPLEEN	Enlarged, Minimal, Diffuse

<< P A T H O L O G Y O B S E R V A T I O N S >>

TISSUE	HISTOPATHOLOGIC DIAGNOSES / SPECIAL HISTOLOGICAL COMMENTS
LIVER	Miscellaneous tissue. Centrilobular hepatocellular hypertrophy: diffuse, Minimal. Hepatocellular glycogen accumulation: diffuse, Slight. With loss of glycogen in the centrilobular zone; Interstitial mixed cell infiltrate: focal/multifocal, Minimal.

The following tissues are normal:
THYROID GLAND(S)

ANIMAL: ST4F3147 SEX: Female GROUP: 4 DOSE LEVEL: 0.0 mg/kg
DAY/WEEK OF DEATH:16/3 Dosing phase 1 STATUS: Final phase sacrifice TERMINAL BODY WEIGHT (G): 21.7

<< G R O S S O B S E R V A T I O N S >>

TISSUE	GROSS OBSERVATIONS / COMMENTS
THYROID GLAND(S)	Enlarged, Minimal, Unilateral /Left.

<< P A T H O L O G Y O B S E R V A T I O N S >>

TISSUE	HISTOPATHOLOGIC DIAGNOSES / SPECIAL HISTOLOGICAL COMMENTS

ALL PROTOCOL REQUIRED TISSUES NORMAL.

ANIMAL: ST4F3148 SEX: Female GROUP: 4 DOSE LEVEL: 0.0 mg/kg
DAY/WEEK OF DEATH:16/3 Dosing phase 1 STATUS: Final phase sacrifice TERMINAL BODY WEIGHT (G): 23.7

<< G R O S S O B S E R V A T I O N S >>

TISSUE	GROSS OBSERVATIONS / COMMENTS
GENERAL COMMENT	All organs, no abnormality

<< P A T H O L O G Y O B S E R V A T I O N S >>

TISSUE	HISTOPATHOLOGIC DIAGNOSES / SPECIAL HISTOLOGICAL COMMENTS

ALL PROTOCOL REQUIRED TISSUES NORMAL.

ANIMAL: ST4F3149 SEX: Female GROUP: 4 DOSE LEVEL: 0.0 mg/kg
DAY/WEEK OF DEATH:16/3 Dosing phase 1 STATUS: Final phase sacrifice TERMINAL BODY WEIGHT (G): 22.0

<< G R O S S O B S E R V A T I O N S >>

TISSUE	GROSS OBSERVATIONS / COMMENTS
GENERAL COMMENT	All organs, no abnormality

<< P A T H O L O G Y O B S E R V A T I O N S >>

TISSUE	HISTOPATHOLOGIC DIAGNOSES / SPECIAL HISTOLOGICAL COMMENTS
THYROID GLAND(S)	Required tissue; one of pair is missing; other is normal.

ANIMAL: ST4F3150 SEX: Female GROUP: 4 DOSE LEVEL: 0.0 mg/kg
DAY/WEEK OF DEATH:16/3 Dosing phase 1 STATUS: Final phase sacrifice TERMINAL BODY WEIGHT (G): 21.3

<< G R O S S O B S E R V A T I O N S >>

TISSUE	GROSS OBSERVATIONS / COMMENTS
GENERAL COMMENT	All organs, no abnormality

<< P A T H O L O G Y O B S E R V A T I O N S >>

TISSUE	HISTOPATHOLOGIC DIAGNOSES / SPECIAL HISTOLOGICAL COMMENTS

ALL PROTOCOL REQUIRED TISSUES NORMAL.

ANIMAL: ST4F3151 SEX: Female GROUP: 4 DOSE LEVEL: 0.0 mg/kg
DAY/WEEK OF DEATH:16/3 Dosing phase 1 STATUS: Final phase sacrifice TERMINAL BODY WEIGHT (G): 22.3

<< G R O S S O B S E R V A T I O N S >>

TISSUE	GROSS OBSERVATIONS / COMMENTS
GENERAL COMMENT	All organs, no abnormality

<< P A T H O L O G Y O B S E R V A T I O N S >>

TISSUE	HISTOPATHOLOGIC DIAGNOSES / SPECIAL HISTOLOGICAL COMMENTS
LIVER	Miscellaneous tissue. Hepatocellular glycogen accumulation: diffuse, Minimal. With loss of glycogen in the centrilobular zone; Interstitial mixed cell infiltrate: focal/multifocal, Minimal.

The following tissues are normal:
THYROID GLAND(S)

ANIMAL: ST4F3152 SEX: Female GROUP: 4 DOSE LEVEL: 0.0 mg/kg
DAY/WEEK OF DEATH:16/3 Dosing phase 1 STATUS: Final phase sacrifice TERMINAL BODY WEIGHT (G): 23.3

<< G R O S S O B S E R V A T I O N S >>

TISSUE	GROSS OBSERVATIONS / COMMENTS
GENERAL COMMENT	All organs, no abnormality

<< P A T H O L O G Y O B S E R V A T I O N S >>

TISSUE	HISTOPATHOLOGIC DIAGNOSES / SPECIAL HISTOLOGICAL COMMENTS
LIVER	Miscellaneous tissue. Hepatocellular glycogen accumulation: diffuse, Slight.
THYROID GLAND(S)	Required tissue; one of pair is missing; other is normal.

ANIMAL: ST4F3153 SEX: Female GROUP: 4 DOSE LEVEL: 0.0 mg/kg
DAY/WEEK OF DEATH:16/3 Dosing phase 1 STATUS: Final phase sacrifice TERMINAL BODY WEIGHT (G): 22.4

<< G R O S S O B S E R V A T I O N S >>

TISSUE	GROSS OBSERVATIONS / COMMENTS
GENERAL COMMENT	All organs, no abnormality

<< P A T H O L O G Y O B S E R V A T I O N S >>

TISSUE	HISTOPATHOLOGIC DIAGNOSES / SPECIAL HISTOLOGICAL COMMENTS

ALL PROTOCOL REQUIRED TISSUES NORMAL.

ANIMAL: ST4F3154 SEX: Female GROUP: 4 DOSE LEVEL: 0.0 mg/kg
DAY/WEEK OF DEATH:16/3 Dosing phase 1 STATUS: Final phase sacrifice TERMINAL BODY WEIGHT (G): 21.8

<< G R O S S O B S E R V A T I O N S >>

TISSUE	GROSS OBSERVATIONS / COMMENTS
GENERAL COMMENT	All organs, no abnormality

<< P A T H O L O G Y O B S E R V A T I O N S >>

TISSUE	HISTOPATHOLOGIC DIAGNOSES / SPECIAL HISTOLOGICAL COMMENTS

ALL PROTOCOL REQUIRED TISSUES NORMAL.

ANIMAL: ST4F3155 SEX: Female GROUP: 4 DOSE LEVEL: 0.0 mg/kg
DAY/WEEK OF DEATH:16/3 Dosing phase 1 STATUS: Final phase sacrifice TERMINAL BODY WEIGHT (G): 25.1

<< G R O S S O B S E R V A T I O N S >>

TISSUE	GROSS OBSERVATIONS / COMMENTS
LIVER	Enlarged, All lobes, Minimal, Diffuse

<< P A T H O L O G Y O B S E R V A T I O N S >>

TISSUE	HISTOPATHOLOGIC DIAGNOSES / SPECIAL HISTOLOGICAL COMMENTS

ALL PROTOCOL REQUIRED TISSUES NORMAL.

ANIMAL: ST4F3156 SEX: Female GROUP: 4 DOSE LEVEL: 0.0 mg/kg
DAY/WEEK OF DEATH:16/3 Dosing phase 1 STATUS: Final phase sacrifice TERMINAL BODY WEIGHT (G): 23.0

<< G R O S S O B S E R V A T I O N S >>

TISSUE	GROSS OBSERVATIONS / COMMENTS
GENERAL COMMENT	All organs, no abnormality

<< P A T H O L O G Y O B S E R V A T I O N S >>

TISSUE	HISTOPATHOLOGIC DIAGNOSES / SPECIAL HISTOLOGICAL COMMENTS

ALL PROTOCOL REQUIRED TISSUES NORMAL.

ANIMAL: ST4F3157 SEX: Female GROUP: 4 DOSE LEVEL: 0.0 mg/kg
DAY/WEEK OF DEATH:16/3 Dosing phase 1 STATUS: Final phase sacrifice TERMINAL BODY WEIGHT (G): 21.0

<< G R O S S O B S E R V A T I O N S >>

TISSUE	GROSS OBSERVATIONS / COMMENTS
GENERAL COMMENT	All organs, no abnormality

<< P A T H O L O G Y O B S E R V A T I O N S >>

TISSUE	HISTOPATHOLOGIC DIAGNOSES / SPECIAL HISTOLOGICAL COMMENTS

ALL PROTOCOL REQUIRED TISSUES NORMAL.

ANIMAL: ST4F3158 SEX: Female GROUP: 4 DOSE LEVEL: 0.0 mg/kg
DAY/WEEK OF DEATH:16/3 Dosing phase 1 STATUS: Final phase sacrifice TERMINAL BODY WEIGHT (G): 22.1

<< G R O S S O B S E R V A T I O N S >>

TISSUE	GROSS OBSERVATIONS / COMMENTS
GENERAL COMMENT	All organs, no abnormality

<< P A T H O L O G Y O B S E R V A T I O N S >>

TISSUE	HISTOPATHOLOGIC DIAGNOSES / SPECIAL HISTOLOGICAL COMMENTS
LIVER	Miscellaneous tissue. Hepatocellular glycogen accumulation: diffuse, Slight. Interstitial mixed cell infiltrate: focal/multifocal, Minimal.

The following tissues are normal:
THYROID GLAND(S)

APPENDIX L - **INCIDENCE OF MICROSCOPIC PATHOLOGY FINDINGS WITH INDIVIDUAL ANIMAL NUMBERS**

App. L1 **Incidence of microscopic pathology findings with individual animal numbers - 3 Days**

App. L2 **Incidence of microscopic pathology findings with individual animal numbers - 14 Days**

App. L1 **Incidence of microscopic pathology findings with individual animal numbers - 3 Days**

GROUP	DURATION OF EXPOSURE	TEST SUBSTANCE	DOSE LEVELS	NUMBER OF ANIMALS PER GROUP	ANIMAL IDENTITY	
FEMALES					SG1 (Sept. 04, 2008)	SG2 (Sept. 05, 2008)
1	3 Days	Phenobarbital	80 mg/kg/day	15	ST1F3039 to 3047	ST1F3048 to 3053
2	3 Days	Control	0	15	ST2F3054 to 3059	ST2F3060 to 3068
3	3 Days	TERTIARY BUTANOL	2 mg/mL	15	ST3F3069 to 3077	ST3F3078 to 3083
4	3 Days		20 mg/mL	15	ST4F3084 to 3089	ST4F3090 to 3098
FEMALES					SG1 (Sept. 03, 2008)	SG2 (Sept. 04, 2008)
1	14 Days	Phenobarbital	80 mg/kg/day	15	ST1F3099 to 3107	ST1F3108 to 3113
2	14 Days	Control	0	15	ST2F3114 to 3119	ST2F3120 to 3128
3	14 Days	TERTIARY BUTANOL	2 mg/mL	15	ST3F3129 to 3137	ST3F3138 to 3143
4	14 Days		20 mg/mL	15	ST4F3144 to 3149	ST4F3150 to 3158

Note: The dose level specified for animals in Groups 3 and 4 is 0 mg/kg. This is due to a limitation of the PathTox data capture system used. The actual dose levels are as specified in the above table.

Bayer CropScience
Center of Toxicology
Sophia-Antipolis
Mouse/B6C3F1

Incidence summary with animal numbers
SA 08160
P.T.S.4.2.2

Printed :31-Oct-08
Page :1
Mechanistic study/Exploratory study

Controls from group(s): 2	Animal sex:	-- Animals Affected --			
Dosing units: mg/kg			-- Females --		
Tissues With Diagnoses	Group dosage level:	Ctls	80.0	0.0	0.0
	No. in group:	15	15	15	15
LIVER .....Number examined:		5	5	0	5
Centrilobular hepatocellular hypertrophy: diffuse			ST1F3040		
			ST1F3045		
			ST1F3047		
			ST1F3049		
			ST1F3050		
Increased number of mitoses			ST1F3040		
			ST1F3045		
			ST1F3047		
			ST1F3049		
Hepatocellular glycogen accumulation: diffuse		ST2F3058	ST1F3045		ST4F3085
		ST2F3059	ST1F3047		ST4F3086
		ST2F3064	ST1F3049		ST4F3093
		ST2F3065	ST1F3050		ST4F3097
		ST2F3067			ST4F3098
Interstitial mononuclear cell infiltrate: focal/multifocal		ST2F3059	ST1F3040		ST4F3093
Interstitial mixed cell infiltrate: focal/multifocal		ST2F3058			
		ST2F3064			
		ST2F3065			
		ST2F3067			
THYROID GLAND(S) .....Number examined:		15	14	15	14
Ultimo-branchial cyst(s)					ST4F3092
Ectopic thymic tissue					ST4F3093
Follicular cyst(s)			ST1F3048	ST3F3074	ST4F3087
				ST3F3078	
				ST3F3079	
				ST3F3081	
Interstitial mononuclear cell infiltrate: focal/multifocal			ST1F3049		

All Diagnoses; Phases: All; Death types: All; Date of death range: 07-Sep-08 To 09-Sep-08

Controls from group(s): 2	Animal sex:	-- Animals Affected --			
		-- Females --			
Dosing units: mg/kg	Group dosage level:	Ctls	80.0	0.0	0.0
Tissues With Diagnoses	No. in group:	15	15	15	15
ADRENAL GLAND(S)	Number examined:	0	0	1	0
Subcapsular cell hyperplasia: focal/multifocal				ST3F3076	
OVARY(IES)	Number examined:	1	0	0	0
B-Teratoma, benign		ST2F3061			

All Diagnoses; Phases: All; Death types: All; Date of death range: 07-Sep-08 To 09-Sep-08

App. L2 **Incidence of microscopic pathology findings with individual animal numbers - 14 Days**

GROUP	DURATION OF EXPOSURE	TEST SUBSTANCE	DOSE LEVELS	NUMBER OF ANIMALS PER GROUP	ANIMAL IDENTITY	
FEMALES					SG1 (Sept. 04, 2008)	SG2 (Sept. 05, 2008)
1	3 Days	Phenobarbital	80 mg/kg/day	15	ST1F3039 to 3047	ST1F3048 to 3053
2	3 Days	Control	0	15	ST2F3054 to 3059	ST2F3060 to 3068
3	3 Days	TERTIARY BUTANOL	2 mg/mL	15	ST3F3069 to 3077	ST3F3078 to 3083
4	3 Days		20 mg/mL	15	ST4F3084 to 3089	ST4F3090 to 3098
FEMALES					SG1 (Sept. 03, 2008)	SG2 (Sept. 04, 2008)
1	14 Days	Phenobarbital	80 mg/kg/day	15	ST1F3099 to 3107	ST1F3108 to 3113
2	14 Days	Control	0	15	ST2F3114 to 3119	ST2F3120 to 3128
3	14 Days	TERTIARY BUTANOL	2 mg/mL	15	ST3F3129 to 3137	ST3F3138 to 3143
4	14 Days		20 mg/mL	15	ST4F3144 to 3149	ST4F3150 to 3158

Note: The dose level specified for animals in Groups 3 and 4 is 0 mg/kg. This is due to a limitation of the PathTox data capture system used. The actual dose levels are as specified in the above table.

Controls from group(s): 2	Animal sex:	-- Animals Affected --			
		-- Females --			
Dosing units: mg/kg	Group dosage level:	Ctls	80.0	0.0	0.0
Tissues With Diagnoses	No. in group:	15	15	15	15
LIVER .....Number examined:		6	6	5	5
Centrilobular hepatocellular hypertrophy: diffuse			ST1F3100		ST4F3145
			ST1F3105		ST4F3146
			ST1F3107		
			ST1F3111		
			ST1F3112		
Increased number of mitoses					ST4F3145
Hepatocellular glycogen accumulation: diffuse		ST2F3114	ST1F3100	ST3F3129	ST4F3145
		ST2F3118	ST1F3105	ST3F3134	ST4F3146
		ST2F3120	ST1F3107	ST3F3136	ST4F3151
		ST2F3123	ST1F3111	ST3F3138	ST4F3152
		ST2F3127	ST1F3112	ST3F3141	ST4F3158
Interstitial mononuclear cell infiltrate: focal/multifocal		ST2F3114	ST1F3100	ST3F3136	ST4F3145
		ST2F3118	ST1F3105	ST3F3138	
		ST2F3120	ST1F3107	ST3F3141	
		ST2F3127	ST1F3111		
			ST1F3112		
Interstitial mixed cell infiltrate: focal/multifocal		ST2F3120		ST3F3134	ST4F3146
		ST2F3123		ST3F3136	ST4F3151
		ST2F3127			ST4F3158
Lobar torsion		ST2F3122	ST1F3110	ST3F3134	
THYROID GLAND(S) .....Number examined:		14	14	15	15
Ectopic thymic tissue		ST2F3118		ST3F3131	
		ST2F3128			
Follicular cyst(s)		ST2F3121	ST1F3111		
		ST2F3125	ST1F3112		
C cell hyperplasia: focal/multifocal			ST1F3103		ST4F3144

All Diagnoses; Phases: All; Death types: All; Date of death range: 18-Sep-08 To 19-Sep-08

APPENDIX M - HORMONAL REPORT

GROUP	DURATION OF EXPOSURE	TEST SUBSTANCE	DOSE LEVELS	NUMBER OF ANIMALS PER GROUP	ANIMAL IDENTITY	
FEMALES					SG1 (Sept. 04, 2008)	SG2 (Sept. 05, 2008)
1	3 Days	Phenobarbital	80 mg/kg/day	15	ST1F3039 to 3047	ST1F3048 to 3053
2	3 Days	Control	0	15	ST2F3054 to 3059	ST2F3060 to 3068
3	3 Days	TERTIARY BUTANOL	2 mg/mL	15	ST3F3069 to 3077	ST3F3078 to 3083
4	3 Days		20 mg/mL	15	ST4F3084 to 3089	ST4F3090 to 3098
FEMALES					SG1 (Sept. 03, 2008)	SG2 (Sept. 04, 2008)
1	14 Days	Phenobarbital	80 mg/kg/day	15	ST1F3099 to 3107	ST1F3108 to 3113
2	14 Days	Control	0	15	ST2F3114 to 3119	ST2F3120 to 3128
3	14 Days	TERTIARY BUTANOL	2 mg/mL	15	ST3F3129 to 3137	ST3F3138 to 3143
4	14 Days		20 mg/mL	15	ST4F3144 to 3149	ST4F3150 to 3158

BAYER CROPSCIENCE
STUDY SA 08160

RESULTS of HORMONE ASSAYS
(T3, T4 and TSH in Mice)

Bernadette KECK, Engineer

Department of Endocrinology
National Veterinary School of Lyon
1, av Bourgelat, BP 83
69280 Marcy l'Etoile - FRANCE

November 14th 2008
The report is a true and accurate record of the results obtained.

PERSONS INVOLVED IN THE STUDY

The animal part of the study including stabulation, treatment and collection of blood samples was carried out at:

BAYER CROPSCIENCE
Research Toxicology
355 rue Dostoievski
BP 153
06903 SOPHIA-ANTIPOLIS
France

under the supervision of O. BLANCK according to the study plan SA 08160.

The determination of T3, T4 and TSH concentrations was performed at the:

NATIONAL VETERINARY SCHOOL OF LYON
Department of Endocrinology
1 Avenue Bourgelat
B.P. 83
69280 MARCY L'ETOILE
FRANCE

under the supervision of Bernadette KECK.

Technical operator: Justine GRICOURT
Quality Assurance: Thierry BURONFOSSE

Quality Assurance Statement : Final report

TITLE:

Tertiary butanol : Mechanistic 14-day toxicity study in the mouse (Hepatotoxicity and thyroid hormone investigations)

Inspections for the above referenced study were conducted by ENVL, Department of Endocrinology Quality Assurance Unit (QAU), to assure conformance with "Principles of Good Laboratory Practice" (French Official Journal of March 23th 2000) and Organisation for Economic Cooperation and Development GLPs, study protocol and Standard Operating Procedures (SOPs). The undersigned indicates that the report and data were audited to assure that it describes the study methods; that the reported results accurately and completely reflect the raw data; and that it accounts for any changes from the protocol, SOPs, and GLPs.

Audits reported to			
Type Phase : Hormone assays	Inspection date Month/Day/Year	Principal (1) Investigator § Management	Study (2) Director § Management
Study			
Protocol Review	August 20th 2008	August 21st 2008	August 28th 2008
In-life inspections	(T4) October 06th 2008	October 06th 2008 October 15th 2008	October 10th 2008
Report/Raw data	October 31th 2008 November 13th 2008	November 10th 2008 November 10th 2008	November 13th 2008

Name	Date
Thierry BURONFOSSE ENVL, Department of Endocrinology QAU	November 13th 2008

(1) The dates indicated correspond to dates of signature of audit report
(2) The dates indicated correspond to dates of transmission of audit report to the Study Director and his management.

Principal Investigator Statement

This phase of the study Bayer CropScience SA 08160 was performed in compliance with the following Good Laboratory Practice regulations:

"OECD Principles of Good Laboratory Practice" concerning Mutual Acceptance of Data in the Assessment of Chemicals dated November 26th 1997.

"Principles of Good Laboratory Practice " described in the French Official Journal of 23 March 2000.

OECD series on Principles of Good Laboratory Practice and compliance monitoring. Number 13. (25 June 2002). The application of the OECD Principles of GLP to the organisation and management of multi-site studies.

I declare that this report constitutes a true and faithful record of the procedures undertaken and the results obtained during the performance of the study.

This part of the study was performed at ENVL, Department of Endocrinology, 1 Avenue Bourgelat, BP 83 - 69280 Marcy l'Etoile, France

Principal Investigator
Bernadette KECK

Date
November 14th 2008.

BAYER CROPSCIENCE, Study SA 08160
RESULTS of HORMONE ASSAYS
(T3, T4 and TSH in Mice)

T3, T4 and TSH were assayed in Mice. The animals (15 animals per group – 4 groups) were submitted to continuous drinking administration for 3 or 14 days.

The samples were received from Bayer CropScience on September 23th 2008 and analysed at the Veterinary School between October 01st and 08th 2008.

Section 1: analytical methods

All the analyses were carried out using a direct radioimmunological method (without extraction) according to the specific analytical protocols described below. Each analysis was performed in duplicate.

1) **Reagents:**

a) T3

T3 assays were performed using the Clinical Assays™ GammaCoat™ ^{125}I Total T3 RIA Kit supplied by DIASORIN, 92160, Antony (France). The sensitivity of the method is 0.14 nmol/L, the intra-assay coefficient of variation ranges from 3.1% to 7.9% and the inter-assay coefficient of variation ranges from 4.3% to 8.3%.

b) T4

T4 assays were performed using the Clinical Assays™ GammaCoat™ ^{125}I Total T4 RIA Kit supplied by DIASORIN, 92160, Antony (France). The sensitivity of the method is below 13 nmol/L, the intra-assay coefficient of variation ranges from 2.6% to 6.4% and the inter-assay coefficient of variation ranges from 5.2% to 11.2%.

d) TSH

TSH assays were performed using a kit ref. rat TSH (r TSH) supplied by INSTITUTE OF ISOTOPES Ltd, 1535 BUDAPEST (Hungary). The sensitivity of the method is 0.5 ng/mL, the intra-assay coefficient of variation is 4.8% and the inter-assay coefficient of variation ranges between 8.5% and 16.2%.

2) Radioactivity measurement and calculation of the results

The assays were processed by measuring the radioactivity using a PACKARD RIA STAR® solid scintillation counter. Standard curve fitting using a spline transformation was performed using a program included in the counter software.

Section 2: results:

1) T3

Results expressed in nmol/L are indicated in Tables 1 to 4.

2) T4

Results expressed in nmol/L are indicated in Tables 5 to 8.

3) TSH

Results expressed in ng/mL are indicated in Tables 9 to 12.

Bernadette KECK

APPENDIX

TABLE 1: T3 (nmol/L)
Three days administration

Group 1

		9/8/08			9/9/08
ST1F	3039	1.81	ST1F	3048	1.73
ST1F	3040	/	ST1F	3049	1.85
ST1F	3041	1.78	ST1F	3050	1.99
ST1F	3042	2.43	ST1F	3051	1.73
ST1F	3043	1.97	ST1F	3052	/
ST1F	3044	2.12	ST1F	3053	1.77
ST1F	3045	/			
ST1F	3046	1.70			
ST1F	3047	1.89			
	m	**1.96**		m	**1.81**
	SEM	**0.09**		SEM	**0.05**

Group 2

		9/8/08			9/9/08
ST2F	3054	2.18	ST2F	3060	2.35
ST2F	3055	2.27	ST2F	3061	2.00
ST2F	3056	2.14	ST2F	3062	1.92
ST2F	3057	2.71	ST2F	3063	2.21
ST2F	3058	2.32	ST2F	3064	1.74
ST2F	3059	2.37	ST2F	3065	2.11
			ST2F	3066	1.96
			ST2F	3067	2.16
			ST2F	3068	/
	m	**2.33**		m	**2.06**
	SEM	**0.08**		SEM	**0.07**

LOQ = 0.14 nmol/L

TABLE 2: T3 (nmol/L)
Three days administration

Group 3

		9/8/08			9/9/08
ST3F	3069	2.40	ST3F	3078	2.05
ST3F	3070	1.78	ST3F	3079	1.74
ST3F	3071	1.84	ST3F	3080	1.94
ST3F	3072	1.45	ST3F	3081	2.16
ST3F	3073	2.35	ST3F	3082	/
ST3F	3074	1.88	ST3F	3083	1.99
ST3F	3075	2.36			
ST3F	3076	2.19			
ST3F	3077	2.09			
	m	**2.04**		m	**1.98**
	SEM	**0.11**		SEM	**0.07**

Group 4

		9/8/08			9/9/08
ST4F	3084	1.77	ST4F	3090	2.25
ST4F	3085	1.83	ST4F	3091	1.29
ST4F	3086	2.67	ST4F	3092	2.36
ST4F	3087	2.37	ST4F	3094	/
ST4F	3089	2.05	ST4F	3095	2.39
			ST4F	3096	2.04
			ST4F	3097	2.48
	m	**2.14**		m	**2.14**
	SEM	**0.17**		SEM	**0.18**

LOQ = 0.14 nmol/L

TABLE 3: T3 (nmol/L)
Fourteen days administration

Group 1

		9/18/08			9/19/08
ST1F	3099	2.28	ST1F	3108	2.12
ST1F	3100	2.04	ST1F	3109	1.83
ST1F	3101	2.10	ST1F	3110	1.95
ST1F	3102	2.32	ST1F	3111	2.12
ST1F	3103	2.18	ST1F	3112	1.82
ST1F	3104	2.10	ST1F	3113	1.81
ST1F	3105	1.60			
ST1F	3106	1.91			
ST1F	3107	/			
	m	**2.07**		m	**1.94**
	SEM	**0.08**		SEM	**0.06**

Group 2

		9/18/08			9/19/08
ST2F	3114	2.57	ST2F	3120	2.64
ST2F	3115	2.52	ST2F	3121	2.72
ST2F	3116	2.69	ST2F	3122	2.15
ST2F	3117	2.77	ST2F	3123	2.35
ST2F	3118	2.96	ST2F	3124	2.38
ST2F	3119	2.65	ST2F	3125	2.64
			ST2F	3126	2.41
			ST2F	3127	2.22
			ST2F	3128	2.34
	m	**2.69**		m	**2.43**
	SEM	**0.06**		SEM	**0.07**

LOQ = 0.14 nmol/L

TABLE 4: T3 (nmol/L)
Fourteen days administration

Group 3

		9/18/08			9/19/08
ST3F	3129	2.28	ST3F	3138	2.14
ST3F	3130	2.19	ST3F	3139	2.27
ST3F	3131	2.56	ST3F	3140	2.02
ST3F	3132	1.93	ST3F	3141	2.06
ST3F	3133	2.20	ST3F	3142	2.36
ST3F	3134	2.30	ST3F	3143	1.99
ST3F	3135	2.48			
ST3F	3136	2.04			
ST3F	3137	2.44			
	m	**2.27**		m	**2.14**
	SEM	**0.07**		SEM	**0.06**

Group 4

		9/18/08			9/19/08
ST4F	3144	2.31	ST4F	3150	1.95
ST4F	3145	2.01	ST4F	3151	1.80
ST4F	3146	2.42	ST4F	3152	2.14
ST4F	3147	2.25	ST4F	3153	2.37
ST4F	3148	/	ST4F	3154	2.43
ST4F	3149	2.23	ST4F	3155	2.15
			ST4F	3156	2.33
			ST4F	3157	/
			ST4F	3158	2.20
	m	**2.24**		m	**2.17**
	SEM	**0.07**		SEM	**0.08**

LOQ = 0.14 nmol/L

TABLE 5: T4 (nmol/L)
Three days administration

Group 1

		9/8/08			9/9/08
ST1F	3039	26	ST1F	3048	30
ST1F	3040	26	ST1F	3049	31
ST1F	3041	23	ST1F	3050	46
ST1F	3042	22	ST1F	3051	33
ST1F	3043	30	ST1F	3052	20
ST1F	3044	21	ST1F	3053	33
ST1F	3045	37			
ST1F	3046	23			
ST1F	3047	30			
	m	26		m	32
	SEM	1.7		SEM	3.4

Group 2

		9/8/08			9/9/08
ST2F	3054	46	ST2F	3060	32
ST2F	3055	51	ST2F	3061	54
ST2F	3056	38	ST2F	3062	46
ST2F	3057	49	ST2F	3063	42
ST2F	3058	29	ST2F	3064	37
ST2F	3059	49	ST2F	3065	44
			ST2F	3066	57
			ST2F	3067	40
			ST2F	3068	37
	m	44		m	43
	SEM	3.5		SEM	2.7

LOQ = 13 nmol/L

TABLE 6: T4 (nmol/L)
Three days administration

Group 3					
		9/8/08			9/9/08
ST3F	3069	49	ST3F	3078	51
ST3F	3070	35	ST3F	3079	43
ST3F	3071	39	ST3F	3080	50
ST3F	3072	46	ST3F	3081	51
ST3F	3073	48	ST3F	3082	36
ST3F	3074	37	ST3F	3083	48
ST3F	3075	52			
ST3F	3076	52			
ST3F	3077	36			
	m	44		m	47
	SEM	2.3		SEM	2.4

Group 4					
		9/8/08			9/9/08
ST4F	3084	41	ST4F	3090	39
ST4F	3085	47	ST4F	3091	57
ST4F	3086	50	ST4F	3092	42
ST4F	3087	49	ST4F	3094	35
ST4F	3089	43	ST4F	3095	31
			ST4F	3096	41
			ST4F	3097	53
	m	46		m	43
	SEM	1.7		SEM	3.5

LOQ = 13 nmol/L

TABLE 7: T4 (nmol/L)
Fourteen days administration

Group 1

		9/18/08			9/19/08
ST1F	3099	30	ST1F	3108	38
ST1F	3100	37	ST1F	3109	33
ST1F	3101	24	ST1F	3110	30
ST1F	3102	34	ST1F	3111	35
ST1F	3103	22	ST1F	3112	28
ST1F	3104	25	ST1F	3113	28
ST1F	3105	37			
ST1F	3106	34			
ST1F	3107	30			
	m	30		m	32
	SEM	1.9		SEM	1.7

Group 2

		9/18/08			9/19/08
ST2F	3114	68	ST2F	3120	60
ST2F	3115	54	ST2F	3121	54
ST2F	3116	58	ST2F	3122	54
ST2F	3117	54	ST2F	3123	62
ST2F	3118	81	ST2F	3124	52
ST2F	3119	57	ST2F	3125	68
			ST2F	3126	51
			ST2F	3127	60
			ST2F	3128	62
	m	62		m	58
	SEM	4.3		SEM	1.9

LOQ = 13 nmol/L

TABLE 8: T4 (nmol/L)
Fourteen days administration

Group 3					
		9/18/08			9/19/08
ST3F	3129	44	ST3F	3138	59
ST3F	3130	46	ST3F	3139	61
ST3F	3131	48	ST3F	3140	51
ST3F	3132	36	ST3F	3141	43
ST3F	3133	48	ST3F	3142	59
ST3F	3134	48	ST3F	3143	65
ST3F	3135	67			
ST3F	3136	46			
ST3F	3137	41			
	m	47		m	56
	SEM	2.8		SEM	3.3

Group 4					
		9/18/08			9/19/08
ST4F	3144	39	ST4F	3150	48
ST4F	3145	51	ST4F	3151	45
ST4F	3146	52	ST4F	3152	76
ST4F	3147	44	ST4F	3153	45
ST4F	3148	45	ST4F	3154	44
ST4F	3149	31	ST4F	3155	43
			ST4F	3156	50
			ST4F	3157	39
			ST4F	3158	49
	m	44		m	49
	SEM	3.2		SEM	3.6

LOQ = 13 nmol/L

TABLE 9: TSH (ng/mL)
Three days administration

Group 1

		9/8/08			9/9/08
ST1F	3039	3.0	ST1F	3048	2.5
ST1F	3040	2.4	ST1F	3049	2.6
ST1F	3041	2.5	ST1F	3050	2.2
ST1F	3042	1.9	ST1F	3051	2.6
ST1F	3043	2.0	ST1F	3052	2.3
ST1F	3044	1.9	ST1F	3053	1.6
ST1F	3045	2.0			
ST1F	3046	1.9			
ST1F	3047	2.1			
	m	2.2		m	2.3
	SEM	0.1		SEM	0.2

Group 2

		9/8/08			9/9/08
ST2F	3054	2.6	ST2F	3060	2.6
ST2F	3055	1.9	ST2F	3061	3.0
ST2F	3056	1.5	ST2F	3062	2.8
ST2F	3057	1.7	ST2F	3063	1.6
ST2F	3058	1.6	ST2F	3064	2.2
ST2F	3059	1.7	ST2F	3065	1.8
			ST2F	3066	1.3
			ST2F	3067	1.7
			ST2F	3068	/
	m	1.8		m	2.1
	SEM	0.16		SEM	0.22

LOQ = 0.5 ng/mL

TABLE 10: TSH (ng/mL)
Three days administration

Group 3					
		9/8/08			9/9/08
ST3F	3069	2.0	ST3F	3078	3.2
ST3F	3070	2.2	ST3F	3079	1.7
ST3F	3071	2.4	ST3F	3080	1.7
ST3F	3072	1.8	ST3F	3081	1.7
ST3F	3073	1.4	ST3F	3082	1.2
ST3F	3074	1.8	ST3F	3083	2.0
ST3F	3075	2.4			
ST3F	3076	1.6			
ST3F	3077	2.2			
	m	2.0		m	1.9
	SEM	0.12		SEM	0.28

Group 4					
		9/8/08			9/9/08
ST4F	3084	2.9	ST4F	3090	3.1
ST4F	3085	2.6	ST4F	3091	3.3
ST4F	3086	2.6	ST4F	3092	1.5
ST4F	3087	1.7	ST4F	3094	/
ST4F	3089	2.2	ST4F	3095	2.1
			ST4F	3096	1.8
			ST4F	3097	2.0
	m	2.4		m	2.3
	SEM	0.21		SEM	0.30

LOQ = 0.5 ng/mL

TABLE 11: TSH (ng/mL)
Fourteen days administration

Group 1

		9/18/08			9/19/08
ST1F	3099	2.0	ST1F	3108	2.2
ST1F	3100	2.4	ST1F	3109	2.3
ST1F	3101	2.6	ST1F	3110	2.3
ST1F	3102	1.6	ST1F	3111	1.8
ST1F	3103	2.2	ST1F	3112	1.9
ST1F	3104	1.9	ST1F	3113	2.1
ST1F	3105	2.5			
ST1F	3106	2.1			
ST1F	3107	/			
	m	2.2		m	2.1
	SEM	0.12		SEM	0.09

Group 2

		9/18/08			9/19/08
ST2F	3114	2.8	ST2F	3120	2.3
ST2F	3115	2.2	ST2F	3121	3.1
ST2F	3116	1.8	ST2F	3122	2.8
ST2F	3117	1.7	ST2F	3123	2.1
ST2F	3118	2.1	ST2F	3124	2.5
ST2F	3119	1.8	ST2F	3125	1.9
			ST2F	3126	1.7
			ST2F	3127	1.9
			ST2F	3128	2.4
	m	2.1		m	2.3
	SEM	0.17		SEM	0.15

LOQ = 0.5 ng/mL

TABLE 12: TSH (ng/mL)
Fourteen days administration

Group 3

		9/18/08			9/19/08
ST3F	3129	2.6	ST3F	3138	4.2
ST3F	3130	2.3	ST3F	3139	2.8
ST3F	3131	3.3	ST3F	3140	2.4
ST3F	3132	2.1	ST3F	3141	1.7
ST3F	3133	1.6	ST3F	3142	3.0
ST3F	3134	1.4	ST3F	3143	2.2
ST3F	3135	1.9			
ST3F	3136	1.6			
ST3F	3137	1.9			
	m	2.1		m	2.7
	SEM	0.20		SEM	0.35

Group 4

		9/18/08			9/19/08
ST4F	3144	3.0	ST4F	3150	2.6
ST4F	3145	2.0	ST4F	3151	2.8
ST4F	3146	1.4	ST4F	3152	3.1
ST4F	3147	2.0	ST4F	3153	1.6
ST4F	3148	/	ST4F	3154	2.2
ST4F	3149	1.8	ST4F	3155	1.8
			ST4F	3156	1.8
			ST4F	3157	/
			ST4F	3158	2.1
	m	1.7		m	2.1
	SEM	0.18		SEM	0.22

LOQ = 0.5 ng/mL

-=-=-=-=-=-

APPENDIX N - TOTAL CYTOCHROME P-450 CONTENT AND SPECIFIC ACTIVITIES

GROUP	DURATION OF EXPOSURE	TEST SUBSTANCE	DOSE LEVELS	NUMBER OF ANIMALS PER GROUP	ANIMAL IDENTITY	
FEMALES					SG1 (Sept. 04, 2008)	SG2 (Sept. 05, 2008)
1	3 Days	Phenobarbital	80 mg/kg/day	15	ST1F3039 to 3047	ST1F3048 to 3053
2	3 Days	Control	0	15	ST2F3054 to 3059	ST2F3060 to 3068
3	3 Days	TERTIARY BUTANOL	2 mg/mL	15	ST3F3069 to 3077	ST3F3078 to 3083
4	3 Days		20 mg/mL	15	ST4F3084 to 3089	ST4F3090 to 3098
FEMALES					SG1 (Sept. 03, 2008)	SG2 (Sept. 04, 2008)
1	14 Days	Phenobarbital	80 mg/kg/day	15	ST1F3099 to 3107	ST1F3108 to 3113
2	14 Days	Control	0	15	ST2F3114 to 3119	ST2F3120 to 3128
3	14 Days	TERTIARY BUTANOL	2 mg/mL	15	ST3F3129 to 3137	ST3F3138 to 3143
4	14 Days		20 mg/mL	15	ST4F3144 to 3149	ST4F3150 to 3158

Note: Due to the premature death of the animal ST4F3098, which was a part of the pool 4FE (Tertiary butanol 20 mg/ml, 3 days of treatment), the livers of the two remaining animals were included in the pools 4FC and 4FD of the same treatment group. For that reason, the Group 4 (3 days of treatment) was composed of four pools instead of the five initially scheduled. Due to the unexpected results obtained for the pools 1FE and 4FD (maybe inverted during the microsomal preparations process) these two samples were not included in the mean calculations.

GROUP	SEX	Microsomal preparation number	PROT mg/ml	EROD pmol/min/ mg prot	BROD pmol/min/ mg prot	PROD pmol/min/ mg prot	P450 nmol/mg prot
1	F	1FA	12.706	80.75	1085.45	68.61	2.02
1	F	1FA	12.706	71.63	1044.25	.	
1	F	1FA	12.706	80.00	1048.40	76.46	
1	F	1FB	11.468	90.13	1209.80	56.04	2.18
1	F	1FB	11.468	86.88	1060.90	.	
1	F	1FB	11.468	83.88	1149.90	54.00	
1	F	1FC	12.930	86.25	1136.95	57.46	2.10
1	F	1FC	12.930	86.13	1146.25	66.00	
1	F	1FC	12.930	76.88	1108.55	60.96	
1	F	1FD	12.500	81.50	914.45	81.71	1.99
1	F	1FD	12.500	83.00	1034.50	.	
1	F	1FD	12.500	82.25	924.15	71.93	
1	F	1FE	10.384	66.88	.	11.79	1.63
1	F	1FE	10.384	58.88	48.50	10.39	
1	F	1FE	10.384	65.00	54.65	11.96	
2	F	2FA	7.099	69.63	22.15	9.96	1.03
2	F	2FA	7.099	73.50	23.70	9.07	
2	F	2FA	7.099	75.38	22.80	8.79	
2	F	2FB	8.131	58.50	9.00	9.04	0.80
2	F	2FB	8.131	54.50	.	8.39	
2	F	2FB	8.131	.	9.45	8.25	
2	F	2FC	7.323	58.13	16.90	.	0.95
2	F	2FC	7.323	65.00	17.20	7.57	
2	F	2FC	7.323	65.50	18.55	8.57	
2	F	2FD	7.374	76.25	.	9.21	0.85
2	F	2FD	7.374	71.63	15.40	7.82	
2	F	2FD	7.374	70.00	14.15	7.68	
2	F	2FE	7.443	64.00	10.45	9.04	0.89
2	F	2FE	7.443	73.00	.	8.36	
2	F	2FE	7.443	60.88	12.15	8.32	
3	F	3FA	6.962	69.38	16.95	9.07	1.15
3	F	3FA	6.962	66.63	17.30	9.21	
3	F	3FA	6.962	74.88	19.95	8.21	
3	F	3FB	7.168	61.75	16.30	6.79	1.01
3	F	3FB	7.168	68.50	17.75	.	
3	F	3FB	7.168	70.25	17.90	7.00	
3	F	3FC	7.822	69.63	11.35	7.75	0.85
3	F	3FC	7.822	61.88	10.40	8.96	
3	F	3FC	7.822	63.88	.	8.68	
3	F	3FD	7.959	.	14.10	.	1.00
3	F	3FD	7.959	59.88	13.25	8.00	
3	F	3FD	7.959	52.63	.	7.93	
3	F	3FE	8.166	69.88	22.40	8.86	1.08
3	F	3FE	8.166	75.13	20.40	8.29	
3	F	3FE	8.166	75.13	21.80	8.82	

GROUP	SEX	Microsomal preparation number	PROT mg/ml	EROD pmol/min/ mg prot	BROD pmol/min/ mg prot	PROD pmol/min/ mg prot	P450 nmol/mg prot
4	F	4FA	7.134	63.63	15.45	.	0.98
4	F	4FA	7.134	62.25	15.80	6.86	
4	F	4FA	7.134	62.13	14.05	5.71	
4	F	4FB	7.564	61.75	40.75	.	1.07
4	F	4FB	7.564	65.25	37.95	9.29	
4	F	4FB	7.564	62.25	.	9.89	
4	F	4FC	7.220	69.38	14.50	8.61	1.03
4	F	4FC	7.220	68.88	16.45	8.50	
4	F	4FC	7.220	64.13	16.35	.	
4	F	4FD	9.800	122.88	1616.60	116.07	2.52
4	F	4FD	9.800	101.13	1746.20	129.39	
4	F	4FD	9.800	120.88	1628.70	.	
1	F	1FF	10.075	119.13	1627.20	92.29	2.44
1	F	1FF	10.075	104.63	1468.00	105.68	
1	F	1FF	10.075	106.63	1303.70	.	
1	F	1FG	11.864	112.38	1611.70	.	2.10
1	F	1FG	11.864	122.63	1664.70	53.50	
1	F	1FG	11.864	117.25	1488.50	53.61	
1	F	1FH	12.638	96.00	1437.40	53.89	2.18
1	F	1FH	12.638	.	1439.90	.	
1	F	1FH	12.638	98.13	1193.10	48.89	
1	F	1FI	11.915	101.25	1215.60	79.54	2.26
1	F	1FI	11.915	117.13	1162.10	74.32	
1	F	1FI	11.915	.	1181.50	.	
1	F	1FJ	12.655	75.88	1203.85	83.79	2.18
1	F	1FJ	12.655	.	1162.20	78.21	
1	F	1FJ	12.655	79.88	998.00	.	
2	F	2FF	7.168	68.63	19.30	10.61	0.93
2	F	2FF	7.168	67.13	18.75	9.54	
2	F	2FF	7.168	77.50	21.35	9.00	
2	F	2FG	7.048	82.88	16.90	11.46	0.92
2	F	2FG	7.048	80.75	15.20	10.21	
2	F	2FG	7.048	68.88	.	11.11	
2	F	2FH	7.013	66.25	20.15	9.36	0.95
2	F	2FH	7.013	68.38	18.80	.	
2	F	2FH	7.013	75.25	17.55	8.57	
2	F	2FI	7.237	61.88	19.20	8.39	1.01
2	F	2FI	7.237	65.50	17.90	.	
2	F	2FI	7.237	64.50	19.45	8.86	
2	F	2FJ	6.652	68.88	20.70	.	0.97
2	F	2FJ	6.652	68.88	19.50	6.86	
2	F	2FJ	6.652	67.00	.	6.04	
3	F	3FF	8.475	67.25	20.50	.	0.93
3	F	3FF	8.475	71.88	23.35	7.54	
3	F	3FF	8.475	.	25.15	8.43	

GROUP	SEX	Microsomal preparation number	PROT mg/ml	EROD pmol/min/ mg prot	BROD pmol/min/ mg prot	PROD pmol/min/ mg prot	P450 nmol/mg prot
3	F	3FG	6.682	66.13	19.70	9.00	1.20
3	F	3FG	6.682	64.00	.	10.00	
3	F	3FG	6.682	.	21.25	8.14	
3	F	3FH	5.311	82.50	41.20	10.64	1.45
3	F	3FH	5.311	87.50	40.70	10.46	
3	F	3FH	5.311	89.75	.	10.04	
3	F	3FI	5.999	72.25	33.65	9.43	0.92
3	F	3FI	5.999	83.13	36.60	10.36	
3	F	3FI	5.999	79.38	.	9.14	
3	F	3FJ	5.311	87.63	35.50	11.57	1.22
3	F	3FJ	5.311	.	35.15	12.68	
3	F	3FJ	5.311	85.25	35.80	.	
4	F	4FF	5.827	.	62.00	12.57	1.22
4	F	4FF	5.827	77.75	58.55	11.39	
4	F	4FF	5.827	73.50	68.00	14.00	
4	F	4FG	8.527	79.25	405.05	.	1.85
4	F	4FG	8.527	.	363.60	20.71	
4	F	4FG	8.527	83.88	399.70	24.96	
4	F	4FH	7.942	80.38	164.30	16.50	1.14
4	F	4FH	7.942	70.13	.	18.29	
4	F	4FH	7.942	76.00	169.90	.	
4	F	4FI	7.529	80.38	372.75	26.43	1.84
4	F	4FI	7.529	73.75	321.85	24.36	
4	F	4FI	7.529	76.75	.	.	
4	F	4FJ	8.561	.	181.95	14.18	1.47
4	F	4FJ	8.561	58.25	185.80	15.18	
4	F	4FJ	8.561	58.75	184.70	16.21	

APPENDIX O - INDIVIDUAL QUANTITATIVE PCR DATA

App. O1 **Individual quantitative PCR data - 3 Days**

App. O2 **Individual quantitative PCR data - 14 Days**

App. O1 Individual quantitative PCR data - 3 Days

GROUP	DURATION OF EXPOSURE	TEST SUBSTANCE	DOSE LEVELS	NUMBER OF ANIMALS PER GROUP	ANIMAL IDENTITY	
FEMALES					SG1 (Sept. 04, 2008)	SG2 (Sept. 05, 2008)
1	3 Days	Phenobarbital	80 mg/kg/day	15	ST1F3039 to 3047	ST1F3048 to 3053
2	3 Days	Control	0	15	ST2F3054 to 3059	ST2F3060 to 3068
3	3 Days	TERTIARY BUTANOL	2 mg/mL	15	ST3F3069 to 3077	ST3F3078 to 3083
4	3 Days		20 mg/mL	15	ST4F3084 to 3089	ST4F3090 to 3098
FEMALES					SG1 (Sept. 03, 2008)	SG2 (Sept. 04, 2008)
1	14 Days	Phenobarbital	80 mg/kg/day	15	ST1F3099 to 3107	ST1F3108 to 3113
2	14 Days	Control	0	15	ST2F3114 to 3119	ST2F3120 to 3128
3	14 Days	TERTIARY BUTANOL	2 mg/mL	15	ST3F3129 to 3137	ST3F3138 to 3143
4	14 Days		20 mg/mL	15	ST4F3144 to 3149	ST4F3150 to 3158

Sample	Detector	Task	Ct	RQ
ST 1F3039	B2m	Endogenous Control	17.718307	
ST 1F3039	B2m	Endogenous Control	17.661089	
ST 1F3039	B2m	Endogenous Control	17.708965	
ST 1F3039	B2m	Endogenous Control	17.849422	
ST 1F3039	B2m	Endogenous Control	17.957478	
ST 1F3039	B2m	Endogenous Control	17.83559	
ST 1F3039	B2m	Endogenous Control	17.919556	
ST 1F3039	B2m	Endogenous Control	18.230839	
ST 1F3040	B2m	Endogenous Control	17.561062	
ST 1F3040	B2m	Endogenous Control	17.759483	
ST 1F3040	B2m	Endogenous Control	17.351837	
ST 1F3040	B2m	Endogenous Control	17.783695	
ST 1F3040	B2m	Endogenous Control	17.817448	
ST 1F3040	B2m	Endogenous Control	17.784054	
ST 1F3040	B2m	Endogenous Control	17.857119	
ST 1F3040	B2m	Endogenous Control	17.99939	
ST 1F3043	B2m	Endogenous Control	17.497288	
ST 1F3043	B2m	Endogenous Control	17.783289	
ST 1F3043	B2m	Endogenous Control	17.767078	
ST 1F3043	B2m	Endogenous Control	17.817022	
ST 1F3043	B2m	Endogenous Control	17.839426	
ST 1F3043	B2m	Endogenous Control	17.6787	
ST 1F3043	B2m	Endogenous Control	18.160881	
ST 1F3043	B2m	Endogenous Control	17.859638	
ST 1F3045	B2m	Endogenous Control	17.651617	
ST 1F3045	B2m	Endogenous Control	17.741684	
ST 1F3045	B2m	Endogenous Control	18.099072	
ST 1F3045	B2m	Endogenous Control	18.012033	
ST 1F3045	B2m	Endogenous Control	17.94436	
ST 1F3045	B2m	Endogenous Control	17.863682	
ST 1F3045	B2m	Endogenous Control	18.003843	
ST 1F3045	B2m	Endogenous Control	17.811148	
ST 1F3046	B2m	Endogenous Control	17.810873	
ST 1F3046	B2m	Endogenous Control	17.620996	
ST 1F3046	B2m	Endogenous Control	18.121235	
ST 1F3046	B2m	Endogenous Control	17.994715	
ST 1F3046	B2m	Endogenous Control	17.987034	
ST 1F3046	B2m	Endogenous Control	18.032291	
ST 1F3046	B2m	Endogenous Control	17.938082	
ST 1F3046	B2m	Endogenous Control	18.049376	
ST 1F3047	B2m	Endogenous Control	17.638268	
ST 1F3047	B2m	Endogenous Control	17.620739	
ST 1F3047	B2m	Endogenous Control	17.6637	
ST 1F3047	B2m	Endogenous Control	17.798218	
ST 1F3047	B2m	Endogenous Control	17 535025	
ST 1F3047	B2m	Endogenous Control	17.92313	
ST 1F3047	B2m	Endogenous Control	17.592344	
ST 1F3047	B2m	Endogenous Control	17.735952	
ST 1F3049	B2m	Endogenous Control	17.528242	

Sample	Detector	Task	Ct	RQ
ST 1F3049	B2m	Endogenous Control	17 713127	
ST 1F3049	B2m	Endogenous Control	17 891787	
ST 1F3049	B2m	Endogenous Control	17.86054	
ST 1F3049	B2m	Endogenous Control	17.61228	
ST 1F3049	B2m	Endogenous Control	18.204334	
ST 1F3049	B2m	Endogenous Control	17.897852	
ST 1F3049	B2m	Endogenous Control	17.708242	
ST 1F3050	B2m	Endogenous Control	17.47245	
ST 1F3050	B2m	Endogenous Control	17.330341	
ST 1F3050	B2m	Endogenous Control	17.762348	
ST 1F3050	B2m	Endogenous Control	17.879301	
ST 1F3050	B2m	Endogenous Control	17.826902	
ST 1F3050	B2m	Endogenous Control	17.84049	
ST 1F3050	B2m	Endogenous Control	17.78766	
ST 1F3050	B2m	Endogenous Control	17.857021	
ST 1F3051	B2m	Endogenous Control	17.407969	
ST 1F3051	B2m	Endogenous Control	17.43673	
ST 1F3051	B2m	Endogenous Control	17.720547	
ST 1F3051	B2m	Endogenous Control	17.728985	
ST 1F3051	B2m	Endogenous Control	17.676798	
ST 1F3051	B2m	Endogenous Control	17.743694	
ST 1F3051	B2m	Endogenous Control	17.927647	
ST 1F3051	B2m	Endogenous Control	17.556757	
ST 1F3053	B2m	Endogenous Control	17.6393	
ST 1F3053	B2m	Endogenous Control	17.496748	
ST 1F3053	B2m	Endogenous Control	17.651373	
ST 1F3053	B2m	Endogenous Control	17 531197	
ST 1F3053	B2m	Endogenous Control	18.041164	
ST 1F3053	B2m	Endogenous Control	18.186722	
ST 1F3053	B2m	Endogenous Control	18.136803	
ST 1F3053	B2m	Endogenous Control	17.90946	
ST 2F3055	B2m	Endogenous Control	17.78571	
ST 2F3055	B2m	Endogenous Control	17.696918	
ST 2F3055	B2m	Endogenous Control	18.154594	
ST 2F3055	B2m	Endogenous Control	17.926414	
ST 2F3055	B2m	Endogenous Control	18.256008	
ST 2F3055	B2m	Endogenous Control	17.744001	
ST 2F3055	B2m	Endogenous Control	17.796597	
ST 2F3055	B2m	Endogenous Control	17.96777	
ST 2F3057	B2m	Endogenous Control	17.767782	
ST 2F3057	B2m	Endogenous Control	17.527025	
ST 2F3057	B2m	Endogenous Control	17.720333	
ST 2F3057	B2m	Endogenous Control	17.623062	
ST 2F3057	B2m	Endogenous Control	17.908497	
ST 2F3057	B2m	Endogenous Control	17 599401	
ST 2F3057	B2m	Endogenous Control	17.784523	
ST 2F3057	B2m	Endogenous Control	17 560904	
ST 2F3058	B2m	Endogenous Control	17.395285	
ST 2F3058	B2m	Endogenous Control	17.447348	

Sample	Detector	Task	Ct	RQ
ST 2F3058	B2m	Endogenous Control	17 669525	
ST 2F3058	B2m	Endogenous Control	17.56464	
ST 2F3058	B2m	Endogenous Control	17.975733	
ST 2F3058	B2m	Endogenous Control	17.508865	
ST 2F3058	B2m	Endogenous Control	17.662775	
ST 2F3058	B2m	Endogenous Control	17.51319	
ST 2F3059	B2m	Endogenous Control	17.498913	
ST 2F3059	B2m	Endogenous Control	17.695892	
ST 2F3059	B2m	Endogenous Control	17.595303	
ST 2F3059	B2m	Endogenous Control	17.7614	
ST 2F3059	B2m	Endogenous Control	17.769127	
ST 2F3059	B2m	Endogenous Control	17.61783	
ST 2F3059	B2m	Endogenous Control	17.848412	
ST 2F3059	B2m	Endogenous Control	17.73072	
ST 2F3060	B2m	Endogenous Control	17.876848	
ST 2F3060	B2m	Endogenous Control	17.638992	
ST 2F3060	B2m	Endogenous Control	17.846243	
ST 2F3060	B2m	Endogenous Control	17.873468	
ST 2F3060	B2m	Endogenous Control	17.83236	
ST 2F3060	B2m	Endogenous Control	18.054638	
ST 2F3060	B2m	Endogenous Control	17.853298	
ST 2F3060	B2m	Endogenous Control	17.94453	
ST 2F3063	B2m	Endogenous Control	17.351288	
ST 2F3063	B2m	Endogenous Control	17.199886	
ST 2F3063	B2m	Endogenous Control	17.474209	
ST 2F3063	B2m	Endogenous Control	17.583708	
ST 2F3063	B2m	Endogenous Control	17.790962	
ST 2F3063	B2m	Endogenous Control	17.685848	
ST 2F3063	B2m	Endogenous Control	17.484358	
ST 2F3063	B2m	Endogenous Control	17.505451	
ST 2F3064	B2m	Endogenous Control	17.820034	
ST 2F3064	B2m	Endogenous Control	17.347704	
ST 2F3064	B2m	Endogenous Control	17.78688	
ST 2F3064	B2m	Endogenous Control	17.783264	
ST 2F3064	B2m	Endogenous Control	17.853008	
ST 2F3064	B2m	Endogenous Control	17.563301	
ST 2F3064	B2m	Endogenous Control	17.896717	
ST 2F3064	B2m	Endogenous Control	17.386908	
ST 2F3065	B2m	Endogenous Control	17.827223	
ST 2F3065	B2m	Endogenous Control	17.443762	
ST 2F3065	B2m	Endogenous Control	18.08408	
ST 2F3065	B2m	Endogenous Control	17.614506	
ST 2F3065	B2m	Endogenous Control	17.687975	
ST 2F3065	B2m	Endogenous Control	17.636477	
ST 2F3065	B2m	Endogenous Control	17.972046	
ST 2F3065	B2m	Endogenous Control	17.8031	
ST 2F3066	B2m	Endogenous Control	17.466116	
ST 2F3066	B2m	Endogenous Control	17.743742	
ST 2F3066	B2m	Endogenous Control	17.267828	

Sample	Detector	Task	Ct	RQ
ST 2F3066	B2m	Endogenous Control	17.75591	
ST 2F3066	B2m	Endogenous Control	17.805355	
ST 2F3066	B2m	Endogenous Control	17.73336	
ST 2F3066	B2m	Endogenous Control	17.786854	
ST 2F3066	B2m	Endogenous Control	17 962343	
ST 2F3067	B2m	Endogenous Control	17.742598	
ST 2F3067	B2m	Endogenous Control	17.57373	
ST 2F3067	B2m	Endogenous Control	17.640522	
ST 2F3067	B2m	Endogenous Control	17.729345	
ST 2F3067	B2m	Endogenous Control	17.561249	
ST 2F3067	B2m	Endogenous Control	17.574165	
ST 2F3067	B2m	Endogenous Control	18.002958	
ST 2F3067	B2m	Endogenous Control	17.686316	
ST 3F3069	B2m	Endogenous Control	17.683899	
ST 3F3069	B2m	Endogenous Control	17.5155	
ST 3F3069	B2m	Endogenous Control	17.659334	
ST 3F3069	B2m	Endogenous Control	17.676067	
ST 3F3069	B2m	Endogenous Control	17.742046	
ST 3F3069	B2m	Endogenous Control	17.762482	
ST 3F3069	B2m	Endogenous Control	17.715092	
ST 3F3069	B2m	Endogenous Control	17.557621	
ST 3F3071	B2m	Endogenous Control	17.361855	
ST 3F3071	B2m	Endogenous Control	17.519627	
ST 3F3071	B2m	Endogenous Control	17.621655	
ST 3F3071	B2m	Endogenous Control	17.495523	
ST 3F3071	B2m	Endogenous Control	17.781214	
ST 3F3071	B2m	Endogenous Control	17.77724	
ST 3F3071	B2m	Endogenous Control	17.690035	
ST 3F3071	B2m	Endogenous Control	17.614088	
ST 3F3072	B2m	Endogenous Control	17.651688	
ST 3F3072	B2m	Endogenous Control	17.532473	
ST 3F3072	B2m	Endogenous Control	17.799337	
ST 3F3072	B2m	Endogenous Control	17.655474	
ST 3F3072	B2m	Endogenous Control	17.801262	
ST 3F3072	B2m	Endogenous Control	17.638023	
ST 3F3072	B2m	Endogenous Control	17.702488	
ST 3F3072	B2m	Endogenous Control	17 827902	
ST 3F3073	B2m	Endogenous Control	17.633024	
ST 3F3073	B2m	Endogenous Control	17.668985	
ST 3F3073	B2m	Endogenous Control	17.79924	
ST 3F3073	B2m	Endogenous Control	17 771364	
ST 3F3073	B2m	Endogenous Control	17 900578	
ST 3F3073	B2m	Endogenous Control	17 730392	
ST 3F3073	B2m	Endogenous Control	17.839169	
ST 3F3073	B2m	Endogenous Control	17.845078	
ST 3F3074	B2m	Endogenous Control	17.65319	
ST 3F3074	B2m	Endogenous Control	17.390018	
ST 3F3074	B2m	Endogenous Control	17.619259	
ST 3F3074	B2m	Endogenous Control	17.643805	

Sample	Detector	Task	Ct	RQ
ST 3F3074	B2m	Endogenous Control	17.630299	
ST 3F3074	B2m	Endogenous Control	17.658438	
ST 3F3074	B2m	Endogenous Control	17.619768	
ST 3F3074	B2m	Endogenous Control	17.642662	
ST 3F3077	B2m	Endogenous Control	17.501547	
ST 3F3077	B2m	Endogenous Control	16.98398	
ST 3F3077	B2m	Endogenous Control	17.810244	
ST 3F3077	B2m	Endogenous Control	17.737019	
ST 3F3077	B2m	Endogenous Control	17.729597	
ST 3F3077	B2m	Endogenous Control	17.674084	
ST 3F3077	B2m	Endogenous Control	17.643595	
ST 3F3077	B2m	Endogenous Control	17.637009	
ST 3F3078	B2m	Endogenous Control	17.316526	
ST 3F3078	B2m	Endogenous Control	16.926634	
ST 3F3078	B2m	Endogenous Control	17.357641	
ST 3F3078	B2m	Endogenous Control	17.419409	
ST 3F3078	B2m	Endogenous Control	17.368797	
ST 3F3078	B2m	Endogenous Control	17.603025	
ST 3F3078	B2m	Endogenous Control	17.518011	
ST 3F3078	B2m	Endogenous Control	17.613956	
ST 3F3079	B2m	Endogenous Control	16 819664	
ST 3F3079	B2m	Endogenous Control	17.4219	
ST 3F3079	B2m	Endogenous Control	17 815033	
ST 3F3079	B2m	Endogenous Control	17.690195	
ST 3F3079	B2m	Endogenous Control	17.811316	
ST 3F3079	B2m	Endogenous Control	17.897465	
ST 3F3079	B2m	Endogenous Control	18.03304	
ST 3F3079	B2m	Endogenous Control	17.970926	
ST 3F3081	B2m	Endogenous Control	17.08975	
ST 3F3081	B2m	Endogenous Control	17.404972	
ST 3F3081	B2m	Endogenous Control	17.801077	
ST 3F3081	B2m	Endogenous Control	17.419378	
ST 3F3081	B2m	Endogenous Control	17.85545	
ST 3F3081	B2m	Endogenous Control	17.745298	
ST 3F3081	B2m	Endogenous Control	17.670914	
ST 3F3081	B2m	Endogenous Control	17.69867	
ST 3F3083	B2m	Endogenous Control	17.351355	
ST 3F3083	B2m	Endogenous Control	17.568102	
ST 3F3083	B2m	Endogenous Control	17.300667	
ST 3F3083	B2m	Endogenous Control	17.803104	
ST 3F3083	B2m	Endogenous Control	17.401896	
ST 3F3083	B2m	Endogenous Control	17.708742	
ST 3F3083	B2m	Endogenous Control	17.67148	
ST 3F3083	B2m	Endogenous Control	17.72843	
ST 4F3085	B2m	Endogenous Control	17.538687	
ST 4F3085	B2m	Endogenous Control	17.24184	
ST 4F3085	B2m	Endogenous Control	17.612196	
ST 4F3085	B2m	Endogenous Control	17.649696	
ST 4F3085	B2m	Endogenous Control	17.61688	

Sample	Detector	Task	Ct	RQ
ST 4F3085	B2m	Endogenous Control	17.438683	
ST 4F3085	B2m	Endogenous Control	17.607119	
ST 4F3085	B2m	Endogenous Control	17.68747	
ST 4F3086	B2m	Endogenous Control	17.376856	
ST 4F3086	B2m	Endogenous Control	17.06199	
ST 4F3086	B2m	Endogenous Control	17.59774	
ST 4F3086	B2m	Endogenous Control	17.358208	
ST 4F3086	B2m	Endogenous Control	17.493221	
ST 4F3086	B2m	Endogenous Control	17.519575	
ST 4F3086	B2m	Endogenous Control	17.506145	
ST 4F3086	B2m	Endogenous Control	17.427347	
ST 4F3088	B2m	Endogenous Control	17.479483	
ST 4F3088	B2m	Endogenous Control	17.725353	
ST 4F3088	B2m	Endogenous Control	17.597712	
ST 4F3088	B2m	Endogenous Control	17.76452	
ST 4F3088	B2m	Endogenous Control	17.881086	
ST 4F3088	B2m	Endogenous Control	17.827522	
ST 4F3088	B2m	Endogenous Control	17.695173	
ST 4F3088	B2m	Endogenous Control	17.677282	
ST 4F3089	B2m	Endogenous Control	17.334303	
ST 4F3089	B2m	Endogenous Control	17.348358	
ST 4F3089	B2m	Endogenous Control	17.48161	
ST 4F3089	B2m	Endogenous Control	17 695318	
ST 4F3089	B2m	Endogenous Control	17.193884	
ST 4F3089	B2m	Endogenous Control	17.462587	
ST 4F3089	B2m	Endogenous Control	17.551233	
ST 4F3089	B2m	Endogenous Control	17.59714	
ST 4F3091	B2m	Endogenous Control	17.571114	
ST 4F3091	B2m	Endogenous Control	17 272856	
ST 4F3091	B2m	Endogenous Control	17.859741	
ST 4F3091	B2m	Endogenous Control	17.521412	
ST 4F3091	B2m	Endogenous Control	17.58696	
ST 4F3091	B2m	Endogenous Control	17.504549	
ST 4F3091	B2m	Endogenous Control	17.795937	
ST 4F3091	B2m	Endogenous Control	17.32113	
ST 4F3092	B2m	Endogenous Control	17.660067	
ST 4F3092	B2m	Endogenous Control	17.399288	
ST 4F3092	B2m	Endogenous Control	17.502888	
ST 4F3092	B2m	Endogenous Control	17.397379	
ST 4F3092	B2m	Endogenous Control	17.608786	
ST 4F3092	B2m	Endogenous Control	17.428244	
ST 4F3092	B2m	Endogenous Control	17.752289	
ST 4F3092	B2m	Endogenous Control	17.242304	
ST 4F3093	B2m	Endogenous Control	17.23596	
ST 4F3093	B2m	Endogenous Control	17 700691	
ST 4F3093	B2m	Endogenous Control	17.71573	
ST 4F3093	B2m	Endogenous Control	17.680782	
ST 4F3093	B2m	Endogenous Control	17.64887	
ST 4F3093	B2m	Endogenous Control	17 679914	

Sample	Detector	Task	Ct	RQ
ST 4F3093	B2m	Endogenous Control	17.949558	
ST 4F3093	B2m	Endogenous Control	17.877295	
ST 4F3095	B2m	Endogenous Control	17.296112	
ST 4F3095	B2m	Endogenous Control	17.238934	
ST 4F3095	B2m	Endogenous Control	17.538443	
ST 4F3095	B2m	Endogenous Control	17.561285	
ST 4F3095	B2m	Endogenous Control	17.516308	
ST 4F3095	B2m	Endogenous Control	17.713633	
ST 4F3095	B2m	Endogenous Control	17.398829	
ST 4F3095	B2m	Endogenous Control	17.622528	
ST 4F3096	B2m	Endogenous Control	17.4031	
ST 4F3096	B2m	Endogenous Control	17.526575	
ST 4F3096	B2m	Endogenous Control	17.545004	
ST 4F3096	B2m	Endogenous Control	17.271004	
ST 4F3096	B2m	Endogenous Control	17.571297	
ST 4F3096	B2m	Endogenous Control	17.434294	
ST 4F3096	B2m	Endogenous Control	17.729284	
ST 4F3096	B2m	Endogenous Control	17.690632	
ST 4F3097	B2m	Endogenous Control	17.799839	
ST 4F3097	B2m	Endogenous Control	17.515059	
ST 4F3097	B2m	Endogenous Control	17.54321	
ST 4F3097	B2m	Endogenous Control	17.710018	
ST 4F3097	B2m	Endogenous Control	17.614202	
ST 4F3097	B2m	Endogenous Control	17.827229	
ST 4F3097	B2m	Endogenous Control	17.845629	
ST 4F3097	B2m	Endogenous Control	17.643728	
H2O	B2m	Endogenous Control	Undetermined	
H2O	B2m	Endogenous Control	Undetermined	
H2O	B2m	Endogenous Control	Undetermined	
H2O	B2m	Endogenous Control	Undetermined	
H2O	B2m	Endogenous Control	Undetermined	
H2O	B2m	Endogenous Control	Undetermined	
H2O	B2m	Endogenous Control	37.06802	
H2O	B2m	Endogenous Control	Undetermined	
ST 1F3039	Cyp1a1	Target	34.105865	0.47551247
ST 1F3039	Cyp1a1	Target	34.635532	0.47551247
ST 1F3040	Cyp1a1	Target	34.238243	0 50016063
ST 1F3040	Cyp1a1	Target	34 298485	0.50016063
ST 1F3043	Cyp1a1	Target	33.68363	0.7013307
ST 1F3043	Cyp1a1	Target	33.837723	0.7013307
ST 1F3045	Cyp1a1	Target	34.6405	0.3808332
ST 1F3045	Cyp1a1	Target	34.75545	0.3808332
ST 1F3046	Cyp1a1	Target	33.60218	0.8276544
ST 1F3046	Cyp1a1	Target	33.592594	0.8276544
ST 1F3047	Cyp1a1	Target	33.699627	0.6815637
ST 1F3047	Cyp1a1	Target	33.882652	0.6815637
ST 1F3049	Cyp1a1	Target	33.90844	0.64689225
ST 1F3049	Cyp1a1	Target	33.80685	0.64689225
ST 1F3050	Cyp1a1	Target	34.037224	0.42354405

Sample	Detector	Task	Ct	RQ
ST 1F3050	Cyp1a1	Target	34.46151	0.42354405
ST 1F3051	Cyp1a1	Target	33.536972	0.69640607
ST 1F3051	Cyp1a1	Target	33.56883	0.69640607
ST 1F3053	Cyp1a1	Target	33.716125	0.6544329
ST 1F3053	Cyp1a1	Target	33.8604	0.6544329
ST 2F3055	Cyp1a1	Target	33 289593	1
ST 2F3055	Cyp1a1	Target	33.410145	1
ST 2F3057	Cyp1a1	Target	33.47501	0.9044054
ST 2F3057	Cyp1a1	Target	33.326824	0.9044054
ST 2F3058	Cyp1a1	Target	33.049244	0.91967386
ST 2F3058	Cyp1a1	Target	33.25211	0 91967386
ST 2F3059	Cyp1a1	Target	32.93566	1.1751612
ST 2F3059	Cyp1a1	Target	33.010536	1.1751612
ST 2F3060	Cyp1a1	Target	33.053703	1.1389904
ST 2F3060	Cyp1a1	Target	33.303738	1.1389904
ST 2F3063	Cyp1a1	Target	33.205757	0.7226716
ST 2F3063	Cyp1a1	Target	33.499702	0.7226716
ST 2F3064	Cyp1a1	Target	32.948486	1.1122761
ST 2F3064	Cyp1a1	Target	33.12933	1.1122761
ST 2F3065	Cyp1a1	Target	33.65585	0.7882603
ST 2F3065	Cyp1a1	Target	33 518757	0.7882603
ST 2F3066	Cyp1a1	Target	33.325165	0.9129215
ST 2F3066	Cyp1a1	Target	33.364677	0.9129215
ST 2F3067	Cyp1a1	Target	33.380077	0.80134755
ST 2F3067	Cyp1a1	Target	33.792366	0.80134755
ST 3F3069	Cyp1a1	Target	33.11377	1.0731859
ST 3F3069	Cyp1a1	Target	33.09894	1.0731859
ST 3F3071	Cyp1a1	Target	33.48138	0.77294976
ST 3F3071	Cyp1a1	Target	33.360317	0.77294976
ST 3F3072	Cyp1a1	Target	33.42073	0.85364354
ST 3F3072	Cyp1a1	Target	33.437126	0.85364354
ST 3F3073	Cyp1a1	Target	32.461185	1.854489
ST 3F3073	Cyp1a1	Target	32.275894	1.854489
ST 3F3074	Cyp1a1	Target	32 961483	1.1415457
ST 3F3074	Cyp1a1	Target	32.916862	1.1415457
ST 3F3077	Cyp1a1	Target	33.207653	0.8022889
ST 3F3077	Cyp1a1	Target	33.130596	0.8022889
ST 3F3078	Cyp1a1	Target	33.15067	0.7995285
ST 3F3078	Cyp1a1	Target	32.95516	0.7995285
ST 3F3079	Cyp1a1	Target	33.544224	0.6471129
ST 3F3079	Cyp1a1	Target	33.170273	0.6471129
ST 3F3081	Cyp1a1	Target	32.91624	1.0511413
ST 3F3081	Cyp1a1	Target	32.651676	1.0511413
ST 3F3083	Cyp1a1	Target	33.35186	0.8019326
ST 3F3083	Cyp1a1	Target	33.4216	0.8019326
ST 4F3085	Cyp1a1	Target	32.964455	1.0332652
ST 4F3085	Cyp1a1	Target	32.938755	1.0332652
ST 4F3086	Cyp1a1	Target	33.979343	0.51228446
ST 4F3086	Cyp1a1	Target	33.606575	0.51228446

Sample	Detector	Task	Ct	RQ
ST 4F3088	Cyp1a1	Target	33.58812	0.7900538
ST 4F3088	Cyp1a1	Target	33.513775	0.7900538
ST 4F3089	Cyp1a1	Target	33 156662	0 78137183
ST 4F3089	Cyp1a1	Target	33.45495	0.78137183
ST 4F3091	Cyp1a1	Target	33.05445	0.7899723
ST 4F3091	Cyp1a1	Target	33.686886	0.7899723
ST 4F3092	Cyp1a1	Target	33.02286	1.1363733
ST 4F3092	Cyp1a1	Target	32.884735	1.1363733
ST 4F3093	Cyp1a1	Target	33.542988	0.7414868
ST 4F3093	Cyp1a1	Target	33.47379	0.7414868
ST 4F3095	Cyp1a1	Target	32.771397	1.0493516
ST 4F3095	Cyp1a1	Target	32.841766	1.0493516
ST 4F3096	Cyp1a1	Target	33.074116	1.0507078
ST 4F3096	Cyp1a1	Target	32.929947	1.0507078
ST 4F3097	Cyp1a1	Target	33.07529	1.1711798
ST 4F3097	Cyp1a1	Target	33.00079	1.1711798
H2O	Cyp1a1	Target	Undetermined	
H2O	Cyp1a1	Target	Undetermined	
ST 1F3039	Cyp2b10	Target	20.495962	22.560238
ST 1F3039	Cyp2b10	Target	20.732775	22.560238
ST 1F3040	Cyp2b10	Target	20.794184	17.778967
ST 1F3040	Cyp2b10	Target	20.827885	17.778967
ST 1F3043	Cyp2b10	Target	20.797123	20.25516
ST 1F3043	Cyp2b10	Target	20.612724	20.25516
ST 1F3045	Cyp2b10	Target	21.056168	15.90747
ST 1F3045	Cyp2b10	Target	20.845324	15.90747
ST 1F3046	Cyp2b10	Target	19.89649	31.104452
ST 1F3046	Cyp2b10	Target	20.242632	31.104452
ST 1F3047	Cyp2b10	Target	20.775326	11.750664
ST 1F3047	Cyp2b10	Target	21.513395	11.750664
ST 1F3049	Cyp2b10	Target	20.732393	17.566933
ST 1F3049	Cyp2b10	Target	20.673883	17.566933
ST 1F3050	Cyp2b10	Target	20.725418	17.396574
ST 1F3050	Cyp2b10	Target	20.747566	17.396574
ST 1F3051	Cyp2b10	Target	20.761969	17.751816
ST 1F3051	Cyp2b10	Target	20.492409	17.751816
ST 1F3053	Cyp2b10	Target	20 754074	21.241636
ST 1F3053	Cyp2b10	Target	20.544308	21.241636
ST 2F3055	Cyp2b10	Target	24.833237	1
ST 2F3055	Cyp2b10	Target	25.000893	1
ST 2F3057	Cyp2b10	Target	24.691559	1.0350236
ST 2F3057	Cyp2b10	Target	24.624308	1.0350236
ST 2F3058	Cyp2b10	Target	25.009802	0.7857538
ST 2F3058	Cyp2b10	Target	24.931625	0.7857538
ST 2F3059	Cyp2b10	Target	24.94047	0.93805563
ST 2F3059	Cyp2b10	Target	24.892935	0.93805563
ST 2F3060	Cyp2b10	Target	24.67793	1.1693386
ST 2F3060	Cyp2b10	Target	24.738277	1.1693386
ST 2F3063	Cyp2b10	Target	23.46894	1.9351456

Sample	Detector	Task	Ct	RQ
ST 2F3063	Cyp2b10	Target	23.685745	1.9351456
ST 2F3064	Cyp2b10	Target	25.160643	0.7607566
ST 2F3064	Cyp2b10	Target	24.981728	0.7607566
ST 2F3065	Cyp2b10	Target	25 977043	0.48709804
ST 2F3065	Cyp2b10	Target	25 943298	0 48709804
ST 2F3066	Cyp2b10	Target	26.565083	0.31740537
ST 2F3066	Cyp2b10	Target	Undetermined	0.31740537
ST 2F3067	Cyp2b10	Target	25.343376	0.72504497
ST 2F3067	Cyp2b10	Target	Undetermined	0.72504497
ST 3F3069	Cyp2b10	Target	24.783018	0.9285375
ST 3F3069	Cyp2b10	Target	24 773392	0.9285375
ST 3F3071	Cyp2b10	Target	25.436089	0.6183157
ST 3F3071	Cyp2b10	Target	25 324965	0.6183157
ST 3F3072	Cyp2b10	Target	24.550201	1.1844012
ST 3F3072	Cyp2b10	Target	24.561634	1.1844012
ST 3F3073	Cyp2b10	Target	24.40195	1.3015441
ST 3F3073	Cyp2b10	Target	24.59161	1.3015441
ST 3F3074	Cyp2b10	Target	24.143717	1.514469
ST 3F3074	Cyp2b10	Target	23.990849	1.514469
ST 3F3077	Cyp2b10	Target	25.040594	0.7762473
ST 3F3077	Cyp2b10	Target	Undetermined	0.7762473
ST 3F3078	Cyp2b10	Target	25.214361	0.010786269
ST 3F3078	Cyp2b10	Target	37.05669	0.010786269
ST 3F3079	Cyp2b10	Target	25.21385	0.88454974
ST 3F3079	Cyp2b10	Target	Undetermined	0.88454974
ST 3F3081	Cyp2b10	Target	24.48057	1.1802589
ST 3F3081	Cyp2b10	Target	Undetermined	1.1802589
ST 3F3083	Cyp2b10	Target	24.513992	1.1654154
ST 3F3083	Cyp2b10	Target	Undetermined	1.1654154
ST 4F3085	Cyp2b10	Target	25.169216	0.747732
ST 4F3085	Cyp2b10	Target	25.033947	0.747732
ST 4F3086	Cyp2b10	Target	24.628666	0.9560372
ST 4F3086	Cyp2b10	Target	24.504314	0.9560372
ST 4F3088	Cyp2b10	Target	24.58962	1.5733099
ST 4F3088	Cyp2b10	Target	23.54499	1.5733099
ST 4F3089	Cyp2b10	Target	24.640148	1.3555453
ST 4F3089	Cyp2b10	Target	23.700241	1.3555453
ST 4F3091	Cyp2b10	Target	25 776188	0.7490489
ST 4F3091	Cyp2b10	Target	24 244377	0.7490489
ST 4F3092	Cyp2b10	Target	24.380724	1.1106875
ST 4F3092	Cyp2b10	Target	Undetermined	1.1106875
ST 4F3093	Cyp2b10	Target	25.974817	0.8769613
ST 4F3093	Cyp2b10	Target	24.300627	0.8769613
ST 4F3095	Cyp2b10	Target	24.569065	1.5086417
ST 4F3095	Cyp2b10	Target	23 335554	1.5086417
ST 4F3096	Cyp2b10	Target	25.684032	1.0033172
ST 4F3096	Cyp2b10	Target	23.79609	1 0033172
ST 4F3097	Cyp2b10	Target	25.532085	1.0582064
ST 4F3097	Cyp2b10	Target	23.863792	1.0582064

Sample	Detector	Task	Ct	RQ
H2O	Cyp2b10	Target	Undetermined	17.182898
H2O	Cyp2b10	Target	Undetermined	17.182898
ST 1F3039	cyp2b9	Target	24.656528	1.4095843
ST 1F3039	cyp2b9	Target	24.720953	1.4095843
ST 1F3040	cyp2b9	Target	24.534369	1.4474735
ST 1F3040	cyp2b9	Target	24.707727	1.4474735
ST 1F3043	cyp2b9	Target	24.438974	1.5353874
ST 1F3043	cyp2b9	Target	24.593023	1.5353874
ST 1F3045	cyp2b9	Target	24.86954	1.2092613
ST 1F3045	cyp2b9	Target	24.964136	1.2092613
ST 1F3046	cyp2b9	Target	24.532654	1.5554469
ST 1F3046	cyp2b9	Target	24.613184	1.5554469
ST 1F3047	cyp2b9	Target	24.40949	1.6931372
ST 1F3047	cyp2b9	Target	24.318745	1.6931372
ST 1F3049	cyp2b9	Target	24.524351	1.5528333
ST 1F3049	cyp2b9	Target	24.435839	1.5528333
ST 1F3050	cyp2b9	Target	24.312788	1.515164
ST 1F3050	cyp2b9	Target	24.27968	1.515164
ST 1F3051	cyp2b9	Target	24 530703	1.3359692
ST 1F3051	cyp2b9	Target	24.466845	1.3359692
ST 1F3053	cyp2b9	Target	24.380678	1.5952308
ST 1F3053	cyp2b9	Target	24.396463	1.5952308
ST 2F3055	cyp2b9	Target	25.173542	1
ST 2F3055	cyp2b9	Target	25.297712	1
ST 2F3057	cyp2b9	Target	24.123106	2.0228775
ST 2F3057	cyp2b9	Target	24.127508	2.0228775
ST 2F3058	cyp2b9	Target	24.64443	1 244022
ST 2F3058	cyp2b9	Target	24.556805	1.244022
ST 2F3059	cyp2b9	Target	24.72528	1.2814682
ST 2F3059	cyp2b9	Target	24.742556	1.2814682
ST 2F3060	cyp2b9	Target	24.46565	1.7104794
ST 2F3060	cyp2b9	Target	24.490011	1.7104794
ST 2F3063	cyp2b9	Target	24.526249	1.2250988
ST 2F3063	cyp2b9	Target	24.427752	1.2250988
ST 2F3064	cyp2b9	Target	24.663406	1.3868331
ST 2F3064	cyp2b9	Target	24.549368	1.3868331
ST 2F3065	cyp2b9	Target	24.637121	1.465237
ST 2F3065	cyp2b9	Target	24.520222	1.465237
ST 2F3066	cyp2b9	Target	24.7845	1.2818376
ST 2F3066	cyp2b9	Target	24.697554	1.2818376
ST 2F3067	cyp2b9	Target	24.268536	1.8965182
ST 2F3067	cyp2b9	Target	24.189713	1.8965182
ST 3F3069	cyp2b9	Target	24.47815	1.5611227
ST 3F3069	cyp2b9	Target	24.424706	1.5611227
ST 3F3071	cyp2b9	Target	24.321781	1.5244832
ST 3F3071	cyp2b9	Target	24.331684	1.5244832
ST 3F3072	cyp2b9	Target	24.524961	1.4643308
ST 3F3072	cyp2b9	Target	24.547338	1.4643308
ST 3F3073	cyp2b9	Target	24.246168	1.8861736

Sample	Detector	Task	Ct	RQ
ST 3F3073	cyp2b9	Target	24.213541	1.8861736
ST 3F3074	cyp2b9	Target	24.231346	1.7311822
ST 3F3074	cyp2b9	Target	24.21697	1.7311822
ST 3F3077	cyp2b9	Target	24.379526	1.3039433
ST 3F3077	cyp2b9	Target	24.328863	1.3039433
ST 3F3078	cyp2b9	Target	24.410547	1.1735154
ST 3F3078	cyp2b9	Target	24.359566	1.1735154
ST 3F3079	cyp2b9	Target	24.491869	1.0593389
ST 3F3079	cyp2b9	Target	24.571991	1.0593389
ST 3F3081	cyp2b9	Target	24.293705	1.2726835
ST 3F3081	cyp2b9	Target	24.493895	1.2726835
ST 3F3083	cyp2b9	Target	24.322119	1.5011569
ST 3F3083	cyp2b9	Target	24.413815	1.5011569
ST 4F3085	cyp2b9	Target	24.49875	1.3366653
ST 4F3085	cyp2b9	Target	24 433123	1.3366653
ST 4F3086	cyp2b9	Target	24.44591	1.2226104
ST 4F3086	cyp2b9	Target	24.40163	1.2226104
ST 4F3088	cyp2b9	Target	24.609076	1.3898175
ST 4F3088	cyp2b9	Target	24.63459	1.3898175
ST 4F3089	cyp2b9	Target	24.190779	1.6117045
ST 4F3089	cyp2b9	Target	24.103334	1.6117045
ST 4F3091	cyp2b9	Target	25.334578	0.7613623
ST 4F3091	cyp2b9	Target	25.284708	0.7613623
ST 4F3092	cyp2b9	Target	24.441893	1.6371163
ST 4F3092	cyp2b9	Target	24.183775	1.6371163
ST 4F3093	cyp2b9	Target	24.585808	1.3151866
ST 4F3093	cyp2b9	Target	24.548935	1.3151866
ST 4F3095	cyp2b9	Target	23.98588	1.7396392
ST 4F3095	cyp2b9	Target	23.940212	1.7396392
ST 4F3096	cyp2b9	Target	24.220833	1.6973709
ST 4F3096	cyp2b9	Target	24.17086	1.6973709
ST 4F3097	cyp2b9	Target	24.55653	1.5650055
ST 4F3097	cyp2b9	Target	24.454653	1.5650055
H2O	cyp2b9	Target	Undetermined	
H2O	cyp2b9	Target	Undetermined	
ST 1F3039	cyp3a11	Target	15.664667	2.955586
ST 1F3039	cyp3a11	Target	15 590845	2 955586
ST 1F3040	cyp3a11	Target	16.062384	2.0514066
ST 1F3040	cyp3a11	Target	16.18794	2.0514066
ST 1F3043	cyp3a11	Target	15.636656	2.9890206
ST 1F3043	cyp3a11	Target	15 487583	2 9890206
ST 1F3045	cyp3a11	Target	16.519442	2.008418
ST 1F3045	cyp3a11	Target	15.864748	2 008418
ST 1F3046	cyp3a11	Target	15.866878	2.7985697
ST 1F3046	cyp3a11	Target	15.5986185	2.7985697
ST 1F3047	cyp3a11	Target	15.667353	2.4866135
ST 1F3047	cyp3a11	Target	15 966294	2.4866135
ST 1F3049	cyp3a11	Target	15.95699	2.2038004
ST 1F3049	cyp3a11	Target	16.007399	2.2038004

Sample	Detector	Task	Ct	RQ
ST 1F3050	cyp3a11	Target	15.907572	1.8618023
ST 1F3050	cyp3a11	Target	16.104828	1.8618023
ST 1F3051	cyp3a11	Target	15.735976	2.4272099
ST 1F3051	cyp3a11	Target	15.553129	2.4272099
ST 1F3053	cyp3a11	Target	15.534155	3 109767
ST 1F3053	cyp3a11	Target	15.3312845	3.109767
ST 2F3055	cyp3a11	Target	17.207163	1
ST 2F3055	cyp3a11	Target	17.278471	1
ST 2F3057	cyp3a11	Target	17.381735	0.80612075
ST 2F3057	cyp3a11	Target	17.537943	0.80612075
ST 2F3058	cyp3a11	Target	17 160143	0.9202954
ST 2F3058	cyp3a11	Target	16.925158	0.9202954
ST 2F3059	cyp3a11	Target	18.074501	0.49304578
ST 2F3059	cyp3a11	Target	18.163723	0.49304578
ST 2F3060	cyp3a11	Target	17.790646	0.78552216
ST 2F3060	cyp3a11	Target	17.424751	0.78552216
ST 2F3063	cyp3a11	Target	16.846457	0.88700664
ST 2F3063	cyp3a11	Target	17.053688	0.88700664
ST 2F3064	cyp3a11	Target	16 602594	1.3252121
ST 2F3064	cyp3a11	Target	16.755707	1.3252121
ST 2F3065	cyp3a11	Target	17.42269	0 82684726
ST 2F3065	cyp3a11	Target	17.399916	0.82684726
ST 2F3066	cyp3a11	Target	17.30259	0.7636315
ST 2F3066	cyp3a11	Target	17.688375	0.7636315
ST 2F3067	cyp3a11	Target	17.310074	0.8579917
ST 2F3067	cyp3a11	Target	17.45119	0.8579917
ST 3F3069	cyp3a11	Target	16.780407	1.2467206
ST 3F3069	cyp3a11	Target	16.78572	1.2467206
ST 3F3071	cyp3a11	Target	16.96448	0.96720064
ST 3F3071	cyp3a11	Target	17.016232	0.96720064
ST 3F3072	cyp3a11	Target	17.731585	0.704373
ST 3F3072	cyp3a11	Target	17.466757	0.704373
ST 3F3073	cyp3a11	Target	17.001728	1.1226293
ST 3F3073	cyp3a11	Target	16.969526	1.1226293
ST 3F3074	cyp3a11	Target	17.319733	0.8300158
ST 3F3074	cyp3a11	Target	17.264061	0.8300158
ST 3F3077	cyp3a11	Target	17.585554	0.5778271
ST 3F3077	cyp3a11	Target	17.48556	0.5778271
ST 3F3078	cyp3a11	Target	17.562622	0.56520104
ST 3F3078	cyp3a11	Target	17.329874	0.56520104
ST 3F3079	cyp3a11	Target	17.793587	0.4535978
ST 3F3079	cyp3a11	Target	17.732008	0.4535978
ST 3F3081	cyp3a11	Target	17.6408	0.617032
ST 3F3081	cyp3a11	Target	17.250092	0.617032
ST 3F3083	cyp3a11	Target	16.553495	1.105443
ST 3F3083	cyp3a11	Target	17.079718	1.105443
ST 4F3085	cyp3a11	Target	17 273943	0.8624076
ST 4F3085	cyp3a11	Target	16.936707	0.8624076
ST 4F3086	cyp3a11	Target	17.299253	0 760818

Sample	Detector	Task	Ct	RQ
ST 4F3086	cyp3a11	Target	16.931353	0.760818
ST 4F3088	cyp3a11	Target	17.45805	0.9798563
ST 4F3088	cyp3a11	Target	16.808508	0.9798563
ST 4F3089	cyp3a11	Target	18.263544	0.39803338
ST 4F3089	cyp3a11	Target	18.080202	0.39803338
ST 4F3091	cyp3a11	Target	17.470497	0.81841207
ST 4F3091	cyp3a11	Target	16.95468	0.81841207
ST 4F3092	cyp3a11	Target	17.305172	1.0696461
ST 4F3092	cyp3a11	Target	16.562925	1.0696461
ST 4F3093	cyp3a11	Target	16.833687	1.1023418
ST 4F3093	cyp3a11	Target	16.824831	1.1023418
ST 4F3095	cyp3a11	Target	16.649054	1.1301227
ST 4F3095	cyp3a11	Target	16.53604	1.1301227
ST 4F3096	cyp3a11	Target	16.784937	1.118011
ST 4F3096	cyp3a11	Target	16.825874	1.118011
ST 4F3097	cyp3a11	Target	17.2298	0.9812032
ST 4F3097	cyp3a11	Target	17.142855	0.9812032
H2O	cyp3a11	Target	37.031094	
H2O	cyp3a11	Target	Undetermined	
ST 1F3039	sult1a1	Target	24.083435	1.1273291
ST 1F3039	sult1a1	Target	24.098862	1.1273291
ST 1F3040	sult1a1	Target	23.779764	1.1829833
ST 1F3040	sult1a1	Target	23.840637	1.1829833
ST 1F3043	sult1a1	Target	23.664604	1.5602292
ST 1F3043	sult1a1	Target	23.605703	1.5602292
ST 1F3045	sult1a1	Target	23.965553	1.5019709
ST 1F3045	sult1a1	Target	23.941568	1.5019709
ST 1F3046	sult1a1	Target	23.50774	2.0166345
ST 1F3046	sult1a1	Target	23.554039	2.0166345
ST 1F3047	sult1a1	Target	23.647503	1.4488635
ST 1F3047	sult1a1	Target	23.7143	1.4488635
ST 1F3049	sult1a1	Target	23.747759	1.5122862
ST 1F3049	sult1a1	Target	23.780832	1.5122862
ST 1F3050	sult1a1	Target	23.640335	1.5483192
ST 1F3050	sult1a1	Target	23.709633	1.5483192
ST 1F3051	sult1a1	Target	23.74045	1.4029322
ST 1F3051	sult1a1	Target	23.701916	1.4029322
ST 1F3053	sult1a1	Target	23.741865	1.2956331
ST 1F3053	sult1a1	Target	23.663116	1.2956331
ST 2F3055	sult1a1	Target	24.537148	1
ST 2F3055	sult1a1	Target	24.51359	1
ST 2F3057	sult1a1	Target	24.081852	1.0956495
ST 2F3057	sult1a1	Target	23.967697	1.0956495
ST 2F3058	sult1a1	Target	23.9637	1.1335089
ST 2F3058	sult1a1	Target	23.8786	1.1335089
ST 2F3059	sult1a1	Target	24.04855	1.0642915
ST 2F3059	sult1a1	Target	24.098093	1.0642915
ST 2F3060	sult1a1	Target	24.077843	1.2054799
ST 2F3060	sult1a1	Target	24.07238	1.2054799

Sample	Detector	Task	Ct	RQ
ST 2F3063	sult1a1	Target	24.138727	0.9569781
ST 2F3063	sult1a1	Target	24.0158	0.9569781
ST 2F3064	sult1a1	Target	24.285105	1.0073725
ST 2F3064	sult1a1	Target	24.23357	1.0073725
ST 2F3065	sult1a1	Target	24.506512	0.91523695
ST 2F3065	sult1a1	Target	24.417366	0.91523695
ST 2F3066	sult1a1	Target	24.470978	0.69889176
ST 2F3066	sult1a1	Target	24.556206	0.69889176
ST 2F3067	sult1a1	Target	24.222843	0.94251597
ST 2F3067	sult1a1	Target	24.287573	0.94251597
ST 3F3069	sult1a1	Target	24.132708	0.98409635
ST 3F3069	sult1a1	Target	24.218678	0.98409635
ST 3F3071	sult1a1	Target	24.163855	0.9139999
ST 3F3071	sult1a1	Target	24.182518	0.9139999
ST 3F3072	sult1a1	Target	23.96171	1 174658
ST 3F3072	sult1a1	Target	23.998346	1.174658
ST 3F3073	sult1a1	Target	23.94653	1.2324597
ST 3F3073	sult1a1	Target	23.99072	1.2324597
ST 3F3074	sult1a1	Target	23.889437	1.1987239
ST 3F3074	sult1a1	Target	23.820353	1.1987239
ST 3F3077	sult1a1	Target	24.087456	1.141612
ST 3F3077	sult1a1	Target	24.04739	1.141612
ST 3F3078	sult1a1	Target	23.991438	0.9486942
ST 3F3078	sult1a1	Target	23.907309	0.9486942
ST 3F3079	sult1a1	Target	24.107357	1.1036454
ST 3F3079	sult1a1	Target	24.083042	1.1036454
ST 3F3081	sult1a1	Target	24.067627	1.0137199
ST 3F3081	sult1a1	Target	24.083239	1.0137199
ST 3F3083	sult1a1	Target	24.082478	0.97728175
ST 3F3083	sult1a1	Target	24.057327	0.97728175
ST 4F3085	sult1a1	Target	24.055002	1.0372399
ST 4F3085	sult1a1	Target	24.071121	1.0372399
ST 4F3086	sult1a1	Target	24.042715	0.93018144
ST 4F3086	sult1a1	Target	24.091793	0.93018144
ST 4F3088	sult1a1	Target	24.118526	1.0440129
ST 4F3088	sult1a1	Target	24.089155	1.0440129
ST 4F3089	sult1a1	Target	23.963634	1.0724853
ST 4F3089	sult1a1	Target	23.981102	1.0724853
ST 4F3091	sult1a1	Target	24 400112	0.8622172
ST 4F3091	sult1a1	Target	24.37852	0.8622172
ST 4F3092	sult1a1	Target	23.859785	1.0592254
ST 4F3092	sult1a1	Target	23.84419	1.0592254
ST 4F3093	sult1a1	Target	24.480747	0.8215494
ST 4F3093	sult1a1	Target	24.452656	0.8215494
ST 4F3095	sult1a1	Target	23 965591	1.0552615
ST 4F3095	sult1a1	Target	23.94866	1.0552615
ST 4F3096	sult1a1	Target	24.419678	0.6866748
ST 4F3096	sult1a1	Target	24.450659	0.6866748
ST 4F3097	sult1a1	Target	24.284115	0.90536124

Sample	Detector	Task	Ct	RQ
ST 4F3097	sult1a1	Target	24 225708	0 90536124
H2O	sult1a1	Target	Undetermined	
H2O	sult1a1	Target	Undetermined	
ST 1F3039	sult2a2	Target	25.388687	6.2086897
ST 1F3039	sult2a2	Target	25 465134	6.2086897
ST 1F3040	sult2a2	Target	24.91393	7.5800476
ST 1F3040	sult2a2	Target	24.941198	7.5800476
ST 1F3043	sult2a2	Target	24.93669	8.722378
ST 1F3043	sult2a2	Target	24.961975	8.722378
ST 1F3045	sult2a2	Target	25.877314	5.5376015
ST 1F3045	sult2a2	Target	25.85928	5.5376015
ST 1F3046	sult2a2	Target	24.709461	12.588959
ST 1F3046	sult2a2	Target	24.662329	12.588959
ST 1F3047	sult2a2	Target	24.966469	8.188883
ST 1F3047	sult2a2	Target	24 992126	8.188883
ST 1F3049	sult2a2	Target	25.64459	5.689962
ST 1F3049	sult2a2	Target	25.65491	5.689962
ST 1F3050	sult2a2	Target	26.254555	3.4787953
ST 1F3050	sult2a2	Target	26.353928	3.4787953
ST 1F3051	sult2a2	Target	25.465805	5.7535644
ST 1F3051	sult2a2	Target	25.498823	5.7535644
ST 1F3053	sult2a2	Target	25.98599	3.7003138
ST 1F3053	sult2a2	Target	25.985296	3.7003138
ST 2F3055	sult2a2	Target	28.307978	1
ST 2F3055	sult2a2	Target	28.337042	1
ST 2F3057	sult2a2	Target	26.213299	3.3168035
ST 2F3057	sult2a2	Target	26.23452	3.3168035
ST 2F3058	sult2a2	Target	26.986807	1.8830616
ST 2F3058	sult2a2	Target	26.98521	1.8830616
ST 2F3059	sult2a2	Target	27.369051	1.4446574
ST 2F3059	sult2a2	Target	27.490208	1.4446574
ST 2F3060	sult2a2	Target	26.204119	3.7641172
ST 2F3060	sult2a2	Target	26.254978	3.7641172
ST 2F3063	sult2a2	Target	26.638762	2.2021492
ST 2F3063	sult2a2	Target	26.705338	2.2021492
ST 2F3064	sult2a2	Target	29.035995	0.5081072
ST 2F3064	sult2a2	Target	29.051748	0.5081072
ST 2F3065	sult2a2	Target	27.632883	1.4367794
ST 2F3065	sult2a2	Target	27.584034	1.4367794
ST 2F3066	sult2a2	Target	28.68357	0.5339774
ST 2F3066	sult2a2	Target	28 714476	0.5339774
ST 2F3067	sult2a2	Target	27.956364	0.99752814
ST 2F3067	sult2a2	Target	27.984653	0.99752814
ST 3F3069	sult2a2	Target	26.643946	2.3908672
ST 3F3069	sult2a2	Target	26.7404	2.3908672
ST 3F3071	sult2a2	Target	27.644838	1.1370466
ST 3F3071	sult2a2	Target	27.665771	1.1370466
ST 3F3072	sult2a2	Target	26.489048	2.8395023
ST 3F3072	sult2a2	Target	26.518497	2.8395023

Sample	Detector	Task	Ct	RQ
ST 3F3073	sult2a2	Target	25 981133	4.2183957
ST 3F3073	sult2a2	Target	26.00009	4.2183957
ST 3F3074	sult2a2	Target	25 872906	3.9634461
ST 3F3074	sult2a2	Target	25.980654	3.9634461
ST 3F3077	sult2a2	Target	26.58006	2.7684784
ST 3F3077	sult2a2	Target	26.59303	2.7684784
ST 3F3078	sult2a2	Target	25.519707	4.5044127
ST 3F3078	sult2a2	Target	25 478674	4.5044127
ST 3F3079	sult2a2	Target	26.650955	2.6102667
ST 3F3079	sult2a2	Target	26.649889	2.6102667
ST 3F3081	sult2a2	Target	27.272682	1.4759146
ST 3F3081	sult2a2	Target	27.388567	1.4759146
ST 3F3083	sult2a2	Target	27.26079	1.5087276
ST 3F3083	sult2a2	Target	27.220327	1.5087276
ST 4F3085	sult2a2	Target	27.965387	0.93088764
ST 4F3085	sult2a2	Target	28.06716	0.93088764
ST 4F3086	sult2a2	Target	26.736671	2.041747
ST 4F3086	sult2a2	Target	26.72368	2.041747
ST 4F3088	sult2a2	Target	28.286793	0.8159542
ST 4F3088	sult2a2	Target	28.226328	0.8159542
ST 4F3089	sult2a2	Target	26.145102	3.344704
ST 4F3089	sult2a2	Target	26.11208	3.344704
ST 4F3091	sult2a2	Target	34.14101	0.012876704
ST 4F3091	sult2a2	Target	34.36234	0.012876704
ST 4F3092	sult2a2	Target	26.079847	3.2409458
ST 4F3092	sult2a2	Target	25.991602	3.2409458
ST 4F3093	sult2a2	Target	27.977798	1.0084572
ST 4F3093	sult2a2	Target	27.95843	1.0084572
ST 4F3095	sult2a2	Target	26.05821	3.4783952
ST 4F3095	sult2a2	Target	26.008686	3.4783952
ST 4F3096	sult2a2	Target	27.8509	0.89999926
ST 4F3096	sult2a2	Target	27.83313	0.89999926
ST 4F3097	sult2a2	Target	26.830612	2.160787
ST 4F3097	sult2a2	Target	26 763512	2.160787
H2O	sult2a2	Target	Undetermined	
H2O	sult2a2	Target	Undetermined	
ST 1F3039	sultn	Target	25 781166	1.3336169
ST 1F3039	sultn	Target	25.870882	1.3336169
ST 1F3040	sultn	Target	25.567251	1.3834909
ST 1F3040	sultn	Target	25.556002	1.3834909
ST 1F3043	sultn	Target	25 435665	1.737837
ST 1F3043	sultn	Target	25.478195	1.737837
ST 1F3045	sultn	Target	25.77778	1.6551424
ST 1F3045	sultn	Target	25.803762	1.6551424
ST 1F3046	sultn	Target	25.420427	2.1714346
ST 1F3046	sultn	Target	25.382572	2.1714346
ST 1F3047	sultn	Target	25.647743	1 433317
ST 1F3047	sultn	Target	25.699808	1 433317
ST 1F3049	sultn	Target	25.661057	1.5352495

Sample	Detector	Task	Ct	RQ
ST 1F3049	sultn	Target	25 778673	1.5352495
ST 1F3050	sultn	Target	25.924446	1.2744262
ST 1F3050	sultn	Target	25 941853	1 2744262
ST 1F3051	sultn	Target	25.41026	1.6655142
ST 1F3051	sultn	Target	25.491684	1.6655142
ST 1F3053	sultn	Target	25.562967	1.3473158
ST 1F3053	sultn	Target	25.683773	1.3473158
ST 2F3055	sultn	Target	26.516525	1
ST 2F3055	sultn	Target	26.48883	1
ST 2F3057	sultn	Target	26.267506	0.94773895
ST 2F3057	sultn	Target	26.155113	0.94773895
ST 2F3058	sultn	Target	26.362928	0.8419098
ST 2F3058	sultn	Target	26 292109	0.8419098
ST 2F3059	sultn	Target	26.000835	1.1013541
ST 2F3059	sultn	Target	26.00166	1.1013541
ST 2F3060	sultn	Target	26.530886	0.8712225
ST 2F3060	sultn	Target	26.510946	0.8712225
ST 2F3063	sultn	Target	25.957827	0.9995638
ST 2F3063	sultn	Target	26 025692	0.9995638
ST 2F3064	sultn	Target	26.213228	1.0300001
ST 2F3064	sultn	Target	26.195974	1.0300001
ST 2F3065	sultn	Target	26.400997	0.9914945
ST 2F3065	sultn	Target	26.246582	0.9914945
ST 2F3066	sultn	Target	26.445362	0.72897995
ST 2F3066	sultn	Target	26.41482	0.72897995
ST 2F3067	sultn	Target	26 688366	0.7082398
ST 2F3067	sultn	Target	26 601227	0.7082398
ST 3F3069	sultn	Target	26.692726	0.64641005
ST 3F3069	sultn	Target	26.82598	0 64641005
ST 3F3071	sultn	Target	26.52361	0.7103281
ST 3F3071	sultn	Target	26.504805	0.7103281
ST 3F3072	sultn	Target	25.92668	1.2427562
ST 3F3072	sultn	Target	25.825392	1.2427562
ST 3F3073	sultn	Target	26.156507	1.0809022
ST 3F3073	sultn	Target	26.11397	1.0809022
ST 3F3074	sultn	Target	26.047056	1.0391972
ST 3F3074	sultn	Target	26 029413	1.0391972
ST 3F3077	sultn	Target	26.328373	0.95470345
ST 3F3077	sultn	Target	26 276987	0.95470345
ST 3F3078	sultn	Target	26.119738	0.82514805
ST 3F3078	sultn	Target	26.13621	0.82514805
ST 3F3079	sultn	Target	26.317654	0.92201257
ST 3F3079	sultn	Target	26.346203	0.92201257
ST 3F3081	sultn	Target	26.30508	0.85691476
ST 3F3081	sultn	Target	26 285273	0 85691476
ST 3F3083	sultn	Target	26 022947	1.0204405
ST 3F3083	sultn	Target	25.946785	1.0204405
ST 4F3085	sultn	Target	26.173246	0.9743996
ST 4F3085	sultn	Target	26 087822	0.9743996

Sample	Detector	Task	Ct	RQ
ST 4F3086	sultn	Target	26.210024	0.8410965
ST 4F3086	sultn	Target	26.169584	0.8410965
ST 4F3088	sultn	Target	26.22477	0 93146133
ST 4F3088	sultn	Target	26.266674	0.93146133
ST 4F3089	sultn	Target	26.182365	0.9298126
ST 4F3089	sultn	Target	26.128885	0.9298126
ST 4F3091	sultn	Target	26.577818	0.7227328
ST 4F3091	sultn	Target	26.664616	0.7227328
ST 4F3092	sultn	Target	26.12155	0.89413816
ST 4F3092	sultn	Target	26.025928	0.89413816
ST 4F3093	sultn	Target	26.895964	0.6364688
ST 4F3093	sultn	Target	26.728575	0.6364688
ST 4F3095	sultn	Target	26.215988	0.88574225
ST 4F3095	sultn	Target	26.158169	0.88574225
ST 4F3096	sultn	Target	26.558336	0.6135017
ST 4F3096	sultn	Target	26.591743	0.6135017
ST 4F3097	sultn	Target	26.260057	0.89523345
ST 4F3097	sultn	Target	26.236843	0.89523345
H2O	sultn	Target	Undetermined	
H2O	sultn	Target	Undetermined	
ST 1F3039	ugt1a1	Target	23.312897	2.039233
ST 1F3039	ugt1a1	Target	23.381475	2.039233
ST 1F3040	ugt1a1	Target	23.078022	2.2363
ST 1F3040	ugt1a1	Target	23.158613	2.2363
ST 1F3043	ugt1a1	Target	23.01992	2.267932
ST 1F3043	ugt1a1	Target	23.092813	2.267932
ST 1F3045	ugt1a1	Target	23.369202	1.956293
ST 1F3045	ugt1a1	Target	23.459957	1.956293
ST 1F3046	ugt1a1	Target	22.92454	2.9431005
ST 1F3046	ugt1a1	Target	22.937471	2.9431005
ST 1F3047	ugt1a1	Target	23.111116	2.1396828
ST 1F3047	ugt1a1	Target	23.1096	2.1396828
ST 1F3049	ugt1a1	Target	23.020767	2.5696507
ST 1F3049	ugt1a1	Target	23.030062	2.5696507
ST 1F3050	ugt1a1	Target	23.196466	2.1559334
ST 1F3050	ugt1a1	Target	23.211658	2.1559334
ST 1F3051	ugt1a1	Target	22.995787	2.2806084
ST 1F3051	ugt1a1	Target	23.003227	2.2806084
ST 1F3053	ugt1a1	Target	23 063461	2.900824
ST 1F3053	ugt1a1	Target	23 048859	2.900824
ST 2F3055	ugt1a1	Target	24.449087	1
ST 2F3055	ugt1a1	Target	24.50828	1
ST 2F3057	ugt1a1	Target	23.962414	1.195244
ST 2F3057	ugt1a1	Target	23.98823	1.195244
ST 2F3058	ugt1a1	Target	24.342163	0.9233983
ST 2F3058	ugt1a1	Target	24.329742	0.9233983
ST 2F3059	ugt1a1	Target	23 975569	1.1323122
ST 2F3059	ugt1a1	Target	24.010202	1.1323122
ST 2F3060	ugt1a1	Target	24.585466	0.8879195

Sample	Detector	Task	Ct	RQ
ST 2F3060	ugt1a1	Target	24.60189	0.8879195
ST 2F3063	ugt1a1	Target	23.837841	1.2991786
ST 2F3063	ugt1a1	Target	23 841127	1.2991786
ST 2F3064	ugt1a1	Target	23.896954	1.2392992
ST 2F3064	ugt1a1	Target	23 857666	1.2392992
ST 2F3065	ugt1a1	Target	23.978312	1.1363087
ST 2F3065	ugt1a1	Target	23.934788	1.1363087
ST 2F3066	ugt1a1	Target	23.87944	1.2901821
ST 2F3066	ugt1a1	Target	23.881483	1.2901821
ST 2F3067	ugt1a1	Target	23.971422	1.0577714
ST 2F3067	ugt1a1	Target	23 959297	1.0577714
ST 3F3069	ugt1a1	Target	24.10632	1.1138388
ST 3F3069	ugt1a1	Target	24.044487	1.1138388
ST 3F3071	ugt1a1	Target	23.859802	1.3149118
ST 3F3071	ugt1a1	Target	23.86608	1.3149118
ST 3F3072	ugt1a1	Target	23.94977	1.1818469
ST 3F3072	ugt1a1	Target	23.964788	1.1818469
ST 3F3073	ugt1a1	Target	23.900526	1.3167715
ST 3F3073	ugt1a1	Target	23 893795	1.3167715
ST 3F3074	ugt1a1	Target	23.81935	1.2826936
ST 3F3074	ugt1a1	Target	23.708391	1.2826936
ST 3F3077	ugt1a1	Target	24.108658	1.0874958
ST 3F3077	ugt1a1	Target	24.010363	1.0874958
ST 3F3078	ugt1a1	Target	23.759756	1.1661397
ST 3F3078	ugt1a1	Target	23.725946	1.1661397
ST 3F3079	ugt1a1	Target	23.956186	1.3306792
ST 3F3079	ugt1a1	Target	23.885628	1.3306792
ST 3F3081	ugt1a1	Target	23.976517	1.2541466
ST 3F3081	ugt1a1	Target	23.928177	1.2541466
ST 3F3083	ugt1a1	Target	23.90276	1.1327838
ST 3F3083	ugt1a1	Target	23.805492	1.1327838
ST 4F3085	ugt1a1	Target	23.708113	1.2606097
ST 4F3085	ugt1a1	Target	23.636568	1.2606097
ST 4F3086	ugt1a1	Target	23.84711	1.0957161
ST 4F3086	ugt1a1	Target	23.859297	1.0957161
ST 4F3088	ugt1a1	Target	24.230886	1.0766264
ST 4F3088	ugt1a1	Target	24.22205	1.0766264
ST 4F3089	ugt1a1	Target	23.956818	0.9050298
ST 4F3089	ugt1a1	Target	23.944939	0.9050298
ST 4F3091	ugt1a1	Target	24 158697	0.9196313
ST 4F3091	ugt1a1	Target	24 131912	0.9196313
ST 4F3092	ugt1a1	Target	23.88348	1.1351795
ST 4F3092	ugt1a1	Target	23.745066	1.1351795
ST 4F3093	ugt1a1	Target	24.075542	1.063508
ST 4F3093	ugt1a1	Target	24.032938	1.063508
ST 4F3095	ugt1a1	Target	23.78187	1.2570881
ST 4F3095	ugt1a1	Target	23.74526	1.2570881
ST 4F3096	ugt1a1	Target	23.897846	1.0844147
ST 4F3096	ugt1a1	Target	23.83127	1.0844147

Sample	Detector	Task	Ct	RQ
ST 4F3097	ugt1a1	Target	24.081629	1.1124555
ST 4F3097	ugt1a1	Target	24 009663	1.1124555
H2O	ugt1a1	Target	Undetermined	
H2O	ugt1a1	Target	Undetermined	
ST 1F3039	Ugt2b1	Target	24.198736	1.2358354
ST 1F3039	Ugt2b1	Target	24.214882	1.2358354
ST 1F3040	Ugt2b1	Target	24.184034	1.1700948
ST 1F3040	Ugt2b1	Target	24.195742	1.1700948
ST 1F3043	Ugt2b1	Target	24.106722	1.2281768
ST 1F3043	Ugt2b1	Target	24.049894	1.2281768
ST 1F3045	Ugt2b1	Target	23.971066	1.4636921
ST 1F3045	Ugt2b1	Target	23.96928	1.4636921
ST 1F3046	Ugt2b1	Target	24.21678	1.3308692
ST 1F3046	Ugt2b1	Target	24.209333	1.3308692
ST 1F3047	Ugt2b1	Target	23.997715	1.2382511
ST 1F3047	Ugt2b1	Target	24.075356	1.2382511
ST 1F3049	Ugt2b1	Target	24.472372	1.0462444
ST 1F3049	Ugt2b1	Target	24.445326	1.0462444
ST 1F3050	Ugt2b1	Target	24.288568	1.1153994
ST 1F3050	Ugt2b1	Target	24.295229	1.1153994
ST 1F3051	Ugt2b1	Target	24.319628	1.0165571
ST 1F3051	Ugt2b1	Target	24.285011	1.0165571
ST 1F3053	Ugt2b1	Target	24.010248	1.6415768
ST 1F3053	Ugt2b1	Target	24.019	1.6415768
ST 2F3055	Ugt2b1	Target	24.613892	1
ST 2F3055	Ugt2b1	Target	24.617641	1
ST 2F3057	Ugt2b1	Target	25.209099	0.5485879
ST 2F3057	Ugt2b1	Target	25.262732	0.5485879
ST 2F3058	Ugt2b1	Target	24.713482	0.78717095
ST 2F3058	Ugt2b1	Target	24.693144	0.78717095
ST 2F3059	Ugt2b1	Target	24.780092	0.70673764
ST 2F3059	Ugt2b1	Target	24.839897	0.70673764
ST 2F3060	Ugt2b1	Target	24.983809	0.7547139
ST 2F3060	Ugt2b1	Target	24.946709	0.7547139
ST 2F3063	Ugt2b1	Target	25.341852	0.49482724
ST 2F3063	Ugt2b1	Target	25.396488	0.49482724
ST 2F3064	Ugt2b1	Target	24.962324	0.6373403
ST 2F3064	Ugt2b1	Target	24.985237	0.6373403
ST 2F3065	Ugt2b1	Target	25.07137	0.5927489
ST 2F3065	Ugt2b1	Target	24.993622	0.5927489
ST 2F3066	Ugt2b1	Target	25.126486	0.6348611
ST 2F3066	Ugt2b1	Target	24.954731	0.6348611
ST 2F3067	Ugt2b1	Target	24.785452	0.66535276
ST 2F3067	Ugt2b1	Target	24.757103	0.66535276
ST 3F3069	Ugt2b1	Target	25.138517	0.58417636
ST 3F3069	Ugt2b1	Target	25.148584	0.58417636
ST 3F3071	Ugt2b1	Target	24.764233	0.7673974
ST 3F3071	Ugt2b1	Target	24.789658	0.7673974
ST 3F3072	Ugt2b1	Target	24.702147	0.7737698

Sample	Detector	Task	Ct	RQ
ST 3F3072	Ugt2b1	Target	24.708714	0.7737698
ST 3F3073	Ugt2b1	Target	24.928158	0.7080142
ST 3F3073	Ugt2b1	Target	24.93064	0 7080142
ST 3F3074	Ugt2b1	Target	25.094414	0.5532362
ST 3F3074	Ugt2b1	Target	25.13391	0.5532362
ST 3F3077	Ugt2b1	Target	24.91472	0.66161776
ST 3F3077	Ugt2b1	Target	24.912344	0.66161776
ST 3F3078	Ugt2b1	Target	25.038172	0 52501297
ST 3F3078	Ugt2b1	Target	25.02433	0.52501297
ST 3F3079	Ugt2b1	Target	24.935043	0.7364369
ST 3F3079	Ugt2b1	Target	24.88799	0.7364369
ST 3F3081	Ugt2b1	Target	25.109182	0.63490057
ST 3F3081	Ugt2b1	Target	25.033886	0.63490057
ST 3F3083	Ugt2b1	Target	24.89389	0.6222207
ST 3F3083	Ugt2b1	Target	24.817276	0.6222207
ST 4F3085	Ugt2b1	Target	24.743538	0.6693566
ST 4F3085	Ugt2b1	Target	24.70186	0.6693566
ST 4F3086	Ugt2b1	Target	24.889366	0.5807626
ST 4F3086	Ugt2b1	Target	24.922913	0.5807626
ST 4F3088	Ugt2b1	Target	24.81378	0.7846285
ST 4F3088	Ugt2b1	Target	24 826193	0.7846285
ST 4F3089	Ugt2b1	Target	25.298943	0.38401943
ST 4F3089	Ugt2b1	Target	25.350552	0.38401943
ST 4F3091	Ugt2b1	Target	24.715984	0.67210734
ST 4F3091	Ugt2b1	Target	24.753523	0.67210734
ST 4F3092	Ugt2b1	Target	24.751402	0.6779026
ST 4F3092	Ugt2b1	Target	24.638853	0.6779026
ST 4F3093	Ugt2b1	Target	24.793142	0.6981299
ST 4F3093	Ugt2b1	Target	24 804035	0 6981299
ST 4F3095	Ugt2b1	Target	25.060776	0.5433936
ST 4F3095	Ugt2b1	Target	25.160551	0.5433936
ST 4F3096	Ugt2b1	Target	25.004328	0.547106
ST 4F3096	Ugt2b1	Target	24.973007	0.547106
ST 4F3097	Ugt2b1	Target	24.93453	0.6755969
ST 4F3097	Ugt2b1	Target	24.869955	0.6755969
H2O	Ugt2b1	Target	Undetermined	
H2O	Ugt2b1	Target	Undetermined	
ST 1F3039	ugt2b5	Target	24.717672	0.99394614
ST 1F3039	ugt2b5	Target	24 720072	0.99394614
ST 1F3040	ugt2b5	Target	24.874966	0.83473456
ST 1F3040	ugt2b5	Target	24.874912	0 83473456
ST 1F3043	ugt2b5	Target	24.90567	0.7809102
ST 1F3043	ugt2b5	Target	24 953156	0.7809102
ST 1F3045	ugt2b5	Target	24.858107	0.88768005
ST 1F3045	ugt2b5	Target	24.92087	0 88768005
ST 1F3046	ugt2b5	Target	24.902275	0.9476763
ST 1F3046	ugt2b5	Target	24 899273	0.9476763
ST 1F3047	ugt2b5	Target	24.824713	0.8426247
ST 1F3047	ugt2b5	Target	24 754673	0.8426247

Sample	Detector	Task	Ct	RQ
ST 1F3049	ugt2b5	Target	24.861883	0.9165265
ST 1F3049	ugt2b5	Target	24.833387	0.9165265
ST 1F3050	ugt2b5	Target	24.796066	0.9030696
ST 1F3050	ugt2b5	Target	24.792664	0.9030696
ST 1F3051	ugt2b5	Target	24.840643	0.81425697
ST 1F3051	ugt2b5	Target	24.799894	0.81425697
ST 1F3053	ugt2b5	Target	24.59457	1.2919402
ST 1F3053	ugt2b5	Target	24.521393	1.2919402
ST 2F3055	ugt2b5	Target	24.807938	1
ST 2F3055	ugt2b5	Target	24.819225	1
ST 2F3057	ugt2b5	Target	25.20526	0.6425367
ST 2F3057	ugt2b5	Target	25.20609	0.6425367
ST 2F3058	ugt2b5	Target	25.130098	0.6819585
ST 2F3058	ugt2b5	Target	25.08614	0.6819585
ST 2F3059	ugt2b5	Target	24.949732	0.7323164
ST 2F3059	ugt2b5	Target	24.9633	0.7323164
ST 2F3060	ugt2b5	Target	25.172937	0.76460636
ST 2F3060	ugt2b5	Target	25.115639	0.76460636
ST 2F3063	ugt2b5	Target	25.023623	0.7201575
ST 2F3063	ugt2b5	Target	25.027575	0.7201575
ST 2F3064	ugt2b5	Target	24.583809	0.9582137
ST 2F3064	ugt2b5	Target	24.582819	0.9582137
ST 2F3065	ugt2b5	Target	24.80346	0.81563175
ST 2F3065	ugt2b5	Target	24.73617	0.81563175
ST 2F3066	ugt2b5	Target	24.618797	0.97629
ST 2F3066	ugt2b5	Target	24.616312	0.97629
ST 2F3067	ugt2b5	Target	24 920208	0.6979222
ST 2F3067	ugt2b5	Target	24.880085	0.6979222
ST 3F3069	ugt2b5	Target	25.159306	0.6902829
ST 3F3069	ugt2b5	Target	25.041857	0.6902829
ST 3F3071	ugt2b5	Target	24.902998	0.80460984
ST 3F3071	ugt2b5	Target	24.909893	0.80460984
ST 3F3072	ugt2b5	Target	24.677004	0.90726644
ST 3F3072	ugt2b5	Target	24.67024	0.90726644
ST 3F3073	ugt2b5	Target	24.901245	0.8164409
ST 3F3073	ugt2b5	Target	24.942041	0.8164409
ST 3F3074	ugt2b5	Target	25.011885	0.68857384
ST 3F3074	ugt2b5	Target	24.980639	0.68857384
ST 3F3077	ugt2b5	Target	24.809013	0.8059279
ST 3F3077	ugt2b5	Target	24.844374	0.8059279
ST 3F3078	ugt2b5	Target	24.948515	0.63508946
ST 3F3078	ugt2b5	Target	24.960402	0.63508946
ST 3F3079	ugt2b5	Target	24.823847	0.89323664
ST 3F3079	ugt2b5	Target	24.837858	0.89323664
ST 3F3081	ugt2b5	Target	24.83575	0.86812043
ST 3F3081	ugt2b5	Target	24.800217	0.86812043
ST 3F3083	ugt2b5	Target	24.735521	0.79085636
ST 3F3083	ugt2b5	Target	24.679295	0.79085636
ST 4F3085	ugt2b5	Target	24.878603	0.7298845

Sample	Detector	Task	Ct	RQ
ST 4F3085	ugt2b5	Target	24.712635	0.7298845
ST 4F3086	ugt2b5	Target	24.674997	0.74443257
ST 4F3086	ugt2b5	Target	24.816528	0.74443257
ST 4F3088	ugt2b5	Target	24.871979	0.8746559
ST 4F3088	ugt2b5	Target	24.85021	0.8746559
ST 4F3089	ugt2b5	Target	25.080708	0.5129629
ST 4F3089	ugt2b5	Target	25.129066	0.5129629
ST 4F3091	ugt2b5	Target	24.915077	0.675873
ST 4F3091	ugt2b5	Target	24.933935	0.675873
ST 4F3092	ugt2b5	Target	24.851912	0.7187849
ST 4F3092	ugt2b5	Target	24.76501	0.7187849
ST 4F3093	ugt2b5	Target	24.668882	0.87108314
ST 4F3093	ugt2b5	Target	24.685293	0.87108314
ST 4F3095	ugt2b5	Target	24.752464	0.810394
ST 4F3095	ugt2b5	Target	24.711245	0.810394
ST 4F3096	ugt2b5	Target	24.739178	0.7583917
ST 4F3096	ugt2b5	Target	24.691542	0.7583917
ST 4F3097	ugt2b5	Target	24.664145	0.9320834
ST 4F3097	ugt2b5	Target	24.60738	0.9320834
H2O	ugt2b5	Target	Undetermined	
H2O	ugt2b5	Target	Undetermined	

App. O2 **Individual quantitative PCR data - 14 Days**

GROUP	DURATION OF EXPOSURE	TEST SUBSTANCE	DOSE LEVELS	NUMBER OF ANIMALS PER GROUP	ANIMAL IDENTITY	
FEMALES					SG1 (Sept. 04, 2008)	SG2 (Sept. 05, 2008)
1	3 Days	Phenobarbital	80 mg/kg/day	15	ST1F3039 to 3047	ST1F3048 to 3053
2	3 Days	Control	0	15	ST2F3054 to 3059	ST2F3060 to 3068
3	3 Days	TERTIARY BUTANOL	2 mg/mL	15	ST3F3069 to 3077	ST3F3078 to 3083
4	3 Days		20 mg/mL	15	ST4F3084 to 3089	ST4F3090 to 3098
FEMALES					SG1 (Sept. 03, 2008)	SG2 (Sept. 04, 2008)
1	14 Days	Phenobarbital	80 mg/kg/day	15	ST1F3099 to 3107	ST1F3108 to 3113
2	14 Days	Control	0	15	ST2F3114 to 3119	ST2F3120 to 3128
3	14 Days	TERTIARY BUTANOL	2 mg/mL	15	ST3F3129 to 3137	ST3F3138 to 3143
4	14 Days		20 mg/mL	15	ST4F3144 to 3149	ST4F3150 to 3158

Note: The old animal identity (before the protocol amendment n°1) has been used for the appendix. In fact animals identity is as follow:

Group 5 → Group 1 (14 Days)
Group 6 → Group 2 (14 Days)
Group 7 → Group 3 (14 Days)
Group 8 → Group 4 (14 Days)

Sample	Detector	Task	Ct	RQ
ST 5F3100	B2m	Endogenous Control	21.220491	
ST 5F3100	B2m	Endogenous Control	21.380617	
ST 5F3100	B2m	Endogenous Control	21.37836	
ST 5F3100	B2m	Endogenous Control	21.237595	
ST 5F3100	B2m	Endogenous Control	21.194817	
ST 5F3100	B2m	Endogenous Control	21.380424	
ST 5F3100	B2m	Endogenous Control	21.276585	
ST 5F3100	B2m	Endogenous Control	21.30511	
ST 5F3101	B2m	Endogenous Control	20.980585	
ST 5F3101	B2m	Endogenous Control	21.087772	
ST 5F3101	B2m	Endogenous Control	21.080164	
ST 5F3101	B2m	Endogenous Control	21.011242	
ST 5F3101	B2m	Endogenous Control	21.021511	
ST 5F3101	B2m	Endogenous Control	21.190947	
ST 5F3101	B2m	Endogenous Control	21.098795	
ST 5F3101	B2m	Endogenous Control	21.118143	
ST 5F3103	B2m	Endogenous Control	20.928429	
ST 5F3103	B2m	Endogenous Control	20.95763	
ST 5F3103	B2m	Endogenous Control	21.282658	
ST 5F3103	B2m	Endogenous Control	21.181078	
ST 5F3103	B2m	Endogenous Control	21.167046	
ST 5F3103	B2m	Endogenous Control	21.291443	
ST 5F3103	B2m	Endogenous Control	21.245913	
ST 5F3103	B2m	Endogenous Control	21.203192	
ST 5F3104	B2m	Endogenous Control	20 829176	
ST 5F3104	B2m	Endogenous Control	21.008394	
ST 5F3104	B2m	Endogenous Control	21.297812	
ST 5F3104	B2m	Endogenous Control	21.14973	
ST 5F3104	B2m	Endogenous Control	21.306515	
ST 5F3104	B2m	Endogenous Control	21.340517	
ST 5F3104	B2m	Endogenous Control	21.253914	
ST 5F3104	B2m	Endogenous Control	21.260408	
ST 5F3105	B2m	Endogenous Control	21.365236	
ST 5F3105	B2m	Endogenous Control	21.256338	
ST 5F3105	B2m	Endogenous Control	21.253757	
ST 5F3105	B2m	Endogenous Control	21.17448	
ST 5F3105	B2m	Endogenous Control	21.33778	
ST 5F3105	B2m	Endogenous Control	21.40066	
ST 5F3105	B2m	Endogenous Control	21.30282	
ST 5F3105	B2m	Endogenous Control	21.291313	
ST 5F3107	B2m	Endogenous Control	20.937166	
ST 5F3107	B2m	Endogenous Control	21.353525	
ST 5F3107	B2m	Endogenous Control	21.29044	
ST 5F3107	B2m	Endogenous Control	21.26569	
ST 5F3107	B2m	Endogenous Control	21.44447	
ST 5F3107	B2m	Endogenous Control	21.51685	
ST 5F3107	B2m	Endogenous Control	21.418463	
ST 5F3107	B2m	Endogenous Control	21.405766	
ST 5F3109	B2m	Endogenous Control	21.491945	

Sample	Detector	Task	Ct	RQ
ST 5F3109	B2m	Endogenous Control	21.766308	
ST 5F3109	B2m	Endogenous Control	21.796494	
ST 5F3109	B2m	Endogenous Control	21.716673	
ST 5F3109	B2m	Endogenous Control	21.843634	
ST 5F3109	B2m	Endogenous Control	21.842299	
ST 5F3109	B2m	Endogenous Control	21.794638	
ST 5F3109	B2m	Endogenous Control	21.751324	
ST 5F3110	B2m	Endogenous Control	21.313765	
ST 5F3110	B2m	Endogenous Control	21.30939	
ST 5F3110	B2m	Endogenous Control	21.460432	
ST 5F3110	B2m	Endogenous Control	21.318321	
ST 5F3110	B2m	Endogenous Control	21.4652	
ST 5F3110	B2m	Endogenous Control	21.425228	
ST 5F3110	B2m	Endogenous Control	21.36639	
ST 5F3110	B2m	Endogenous Control	21.254635	
ST 5F3111	B2m	Endogenous Control	21.049871	
ST 5F3111	B2m	Endogenous Control	20.97067	
ST 5F3111	B2m	Endogenous Control	21.123068	
ST 5F3111	B2m	Endogenous Control	21.191856	
ST 5F3111	B2m	Endogenous Control	21.270407	
ST 5F3111	B2m	Endogenous Control	21.339073	
ST 5F3111	B2m	Endogenous Control	21.320251	
ST 5F3111	B2m	Endogenous Control	21.369238	
ST 5F3112	B2m	Endogenous Control	21.449152	
ST 5F3112	B2m	Endogenous Control	21.121315	
ST 5F3112	B2m	Endogenous Control	21.17773	
ST 5F3112	B2m	Endogenous Control	21.250854	
ST 5F3112	B2m	Endogenous Control	21.448606	
ST 5F3112	B2m	Endogenous Control	21.395275	
ST 5F3112	B2m	Endogenous Control	21.345379	
ST 5F3112	B2m	Endogenous Control	21.460848	
ST 6F3114	B2m	Endogenous Control	21.324387	
ST 6F3114	B2m	Endogenous Control	21.269415	
ST 6F3114	B2m	Endogenous Control	21.511583	
ST 6F3114	B2m	Endogenous Control	21.553001	
ST 6F3114	B2m	Endogenous Control	21.58906	
ST 6F3114	B2m	Endogenous Control	21.647749	
ST 6F3114	B2m	Endogenous Control	21.527185	
ST 6F3114	B2m	Endogenous Control	21.520706	
ST 6F3116	B2m	Endogenous Control	21.082443	
ST 6F3116	B2m	Endogenous Control	20.996506	
ST 6F3116	B2m	Endogenous Control	21.296873	
ST 6F3116	B2m	Endogenous Control	21.283058	
ST 6F3116	B2m	Endogenous Control	21.277063	
ST 6F3116	B2m	Endogenous Control	21.268156	
ST 6F3116	B2m	Endogenous Control	21.211508	
ST 6F3116	B2m	Endogenous Control	21.190464	
ST 6F3118	B2m	Endogenous Control	21.146387	
ST 6F3118	B2m	Endogenous Control	21.14682	

Sample	Detector	Task	Ct	RQ
ST 6F3118	B2m	Endogenous Control	21.222387	
ST 6F3118	B2m	Endogenous Control	21.184643	
ST 6F3118	B2m	Endogenous Control	21.321714	
ST 6F3118	B2m	Endogenous Control	21.248482	
ST 6F3118	B2m	Endogenous Control	21.246876	
ST 6F3118	B2m	Endogenous Control	21.220236	
ST 6F3119	B2m	Endogenous Control	21.099316	
ST 6F3119	B2m	Endogenous Control	21.022926	
ST 6F3119	B2m	Endogenous Control	21.243345	
ST 6F3119	B2m	Endogenous Control	21.162554	
ST 6F3119	B2m	Endogenous Control	21.318674	
ST 6F3119	B2m	Endogenous Control	21.256994	
ST 6F3119	B2m	Endogenous Control	21.25962	
ST 6F3119	B2m	Endogenous Control	21.280872	
ST 6F3120	B2m	Endogenous Control	21.27159	
ST 6F3120	B2m	Endogenous Control	21.222464	
ST 6F3120	B2m	Endogenous Control	21.325619	
ST 6F3120	B2m	Endogenous Control	21.171652	
ST 6F3120	B2m	Endogenous Control	21.380922	
ST 6F3120	B2m	Endogenous Control	21.367188	
ST 6F3120	B2m	Endogenous Control	21.353552	
ST 6F3120	B2m	Endogenous Control	21.325874	
ST 6F3121	B2m	Endogenous Control	21.310656	
ST 6F3121	B2m	Endogenous Control	21.152822	
ST 6F3121	B2m	Endogenous Control	21.535675	
ST 6F3121	B2m	Endogenous Control	21.472956	
ST 6F3121	B2m	Endogenous Control	21.529856	
ST 6F3121	B2m	Endogenous Control	21.444231	
ST 6F3121	B2m	Endogenous Control	21.470083	
ST 6F3121	B2m	Endogenous Control	21.355934	
ST 6F3122	B2m	Endogenous Control	21.427408	
ST 6F3122	B2m	Endogenous Control	21.390997	
ST 6F3122	B2m	Endogenous Control	21.492905	
ST 6F3122	B2m	Endogenous Control	21.440018	
ST 6F3122	B2m	Endogenous Control	21.393822	
ST 6F3122	B2m	Endogenous Control	21.448486	
ST 6F3122	B2m	Endogenous Control	21.383732	
ST 6F3122	B2m	Endogenous Control	21.509375	
ST 6F3123	B2m	Endogenous Control	21.284515	
ST 6F3123	B2m	Endogenous Control	21.317848	
ST 6F3123	B2m	Endogenous Control	21.293062	
ST 6F3123	B2m	Endogenous Control	21.217339	
ST 6F3123	B2m	Endogenous Control	21.273687	
ST 6F3123	B2m	Endogenous Control	21.3032	
ST 6F3123	B2m	Endogenous Control	21.192083	
ST 6F3123	B2m	Endogenous Control	21.290356	
ST 6F3127	B2m	Endogenous Control	21.066545	
ST 6F3127	B2m	Endogenous Control	21.021221	
ST 6F3127	B2m	Endogenous Control	21.200205	

Sample	Detector	Task	Ct	RQ
ST 6F3127	B2m	Endogenous Control	21.15457	
ST 6F3127	B2m	Endogenous Control	21.100983	
ST 6F3127	B2m	Endogenous Control	21.146875	
ST 6F3127	B2m	Endogenous Control	21.021559	
ST 6F3127	B2m	Endogenous Control	21.091732	
ST 6F3128	B2m	Endogenous Control	21.181725	
ST 6F3128	B2m	Endogenous Control	21.096733	
ST 6F3128	B2m	Endogenous Control	21.304117	
ST 6F3128	B2m	Endogenous Control	21.287832	
ST 6F3128	B2m	Endogenous Control	21.199322	
ST 6F3128	B2m	Endogenous Control	21.167381	
ST 6F3128	B2m	Endogenous Control	21.266903	
ST 6F3128	B2m	Endogenous Control	21.269438	
ST 7F3129	B2m	Endogenous Control	21.340422	
ST 7F3129	B2m	Endogenous Control	21.261457	
ST 7F3129	B2m	Endogenous Control	21.34341	
ST 7F3129	B2m	Endogenous Control	21.302582	
ST 7F3129	B2m	Endogenous Control	21.29777	
ST 7F3129	B2m	Endogenous Control	21.287424	
ST 7F3129	B2m	Endogenous Control	21.313732	
ST 7F3129	B2m	Endogenous Control	21.21824	
ST 7F3131	B2m	Endogenous Control	21.202545	
ST 7F3131	B2m	Endogenous Control	21.068651	
ST 7F3131	B2m	Endogenous Control	21.121342	
ST 7F3131	B2m	Endogenous Control	21.112844	
ST 7F3131	B2m	Endogenous Control	21.138157	
ST 7F3131	B2m	Endogenous Control	21.155184	
ST 7F3131	B2m	Endogenous Control	21.19823	
ST 7F3131	B2m	Endogenous Control	21.172377	
ST 7F3132	B2m	Endogenous Control	21.300917	
ST 7F3132	B2m	Endogenous Control	21.275587	
ST 7F3132	B2m	Endogenous Control	21.33227	
ST 7F3132	B2m	Endogenous Control	21.237343	
ST 7F3132	B2m	Endogenous Control	21.226713	
ST 7F3132	B2m	Endogenous Control	21.158077	
ST 7F3132	B2m	Endogenous Control	21.239996	
ST 7F3132	B2m	Endogenous Control	21.192585	
ST 7F3134	B2m	Endogenous Control	21.2913	
ST 7F3134	B2m	Endogenous Control	21.267403	
ST 7F3134	B2m	Endogenous Control	21.363821	
ST 7F3134	B2m	Endogenous Control	21.290047	
ST 7F3134	B2m	Endogenous Control	21.314587	
ST 7F3134	B2m	Endogenous Control	21.236433	
ST 7F3134	B2m	Endogenous Control	21.26776	
ST 7F3134	B2m	Endogenous Control	21.200178	
ST 7F3135	B2m	Endogenous Control	21.02073	
ST 7F3135	B2m	Endogenous Control	21.166088	
ST 7F3135	B2m	Endogenous Control	21.117895	
ST 7F3135	B2m	Endogenous Control	21.07261	

Sample	Detector	Task	Ct	RQ
ST 7F3135	B2m	Endogenous Control	21.185572	
ST 7F3135	B2m	Endogenous Control	21 255396	
ST 7F3135	B2m	Endogenous Control	21.185019	
ST 7F3135	B2m	Endogenous Control	21.233639	
ST 7F3136	B2m	Endogenous Control	20.942276	
ST 7F3136	B2m	Endogenous Control	21.288757	
ST 7F3136	B2m	Endogenous Control	21.261	
ST 7F3136	B2m	Endogenous Control	21.122705	
ST 7F3136	B2m	Endogenous Control	21.293621	
ST 7F3136	B2m	Endogenous Control	21.346111	
ST 7F3136	B2m	Endogenous Control	21.299564	
ST 7F3136	B2m	Endogenous Control	21.293205	
ST 7F3138	B2m	Endogenous Control	21.037598	
ST 7F3138	B2m	Endogenous Control	21.288986	
ST 7F3138	B2m	Endogenous Control	21.328985	
ST 7F3138	B2m	Endogenous Control	21.124218	
ST 7F3138	B2m	Endogenous Control	21.261164	
ST 7F3138	B2m	Endogenous Control	21.328102	
ST 7F3138	B2m	Endogenous Control	21.33536	
ST 7F3138	B2m	Endogenous Control	21.276785	
ST 7F3140	B2m	Endogenous Control	21.139767	
ST 7F3140	B2m	Endogenous Control	21.370441	
ST 7F3140	B2m	Endogenous Control	21.419611	
ST 7F3140	B2m	Endogenous Control	21.25986	
ST 7F3140	B2m	Endogenous Control	21.39784	
ST 7F3140	B2m	Endogenous Control	21.423716	
ST 7F3140	B2m	Endogenous Control	21.396643	
ST 7F3140	B2m	Endogenous Control	21.391897	
ST 7F3141	B2m	Endogenous Control	21.189528	
ST 7F3141	B2m	Endogenous Control	21.294514	
ST 7F3141	B2m	Endogenous Control	21.475882	
ST 7F3141	B2m	Endogenous Control	21.327576	
ST 7F3141	B2m	Endogenous Control	21.374409	
ST 7F3141	B2m	Endogenous Control	21.45679	
ST 7F3141	B2m	Endogenous Control	21.440697	
ST 7F3141	B2m	Endogenous Control	21.450254	
ST 7F3142	B2m	Endogenous Control	21.052235	
ST 7F3142	B2m	Endogenous Control	21.094147	
ST 7F3142	B2m	Endogenous Control	21.241932	
ST 7F3142	B2m	Endogenous Control	21.147408	
ST 7F3142	B2m	Endogenous Control	21.22196	
ST 7F3142	B2m	Endogenous Control	21.217005	
ST 7F3142	B2m	Endogenous Control	21.20172	
ST 7F3142	B2m	Endogenous Control	21.215311	
ST 8F3144	B2m	Endogenous Control	21.169918	
ST 8F3144	B2m	Endogenous Control	21.233164	
ST 8F3144	B2m	Endogenous Control	21.325365	
ST 8F3144	B2m	Endogenous Control	21.337605	
ST 8F3144	B2m	Endogenous Control	21.288229	

Sample	Detector	Task	Ct	RQ
ST 8F3144	B2m	Endogenous Control	21.254034	
ST 8F3144	B2m	Endogenous Control	21.247734	
ST 8F3144	B2m	Endogenous Control	21.213512	
ST 8F3145	B2m	Endogenous Control	21.113388	
ST 8F3145	B2m	Endogenous Control	21.234526	
ST 8F3145	B2m	Endogenous Control	21.360083	
ST 8F3145	B2m	Endogenous Control	21.384165	
ST 8F3145	B2m	Endogenous Control	21.29773	
ST 8F3145	B2m	Endogenous Control	21.296232	
ST 8F3145	B2m	Endogenous Control	21.284214	
ST 8F3145	B2m	Endogenous Control	21.261421	
ST 8F3146	B2m	Endogenous Control	20.93824	
ST 8F3146	B2m	Endogenous Control	20.958748	
ST 8F3146	B2m	Endogenous Control	21.052872	
ST 8F3146	B2m	Endogenous Control	20.972584	
ST 8F3146	B2m	Endogenous Control	21.030886	
ST 8F3146	B2m	Endogenous Control	21.202877	
ST 8F3146	B2m	Endogenous Control	21.107674	
ST 8F3146	B2m	Endogenous Control	21.108257	
ST 8F3148	B2m	Endogenous Control	20.957502	
ST 8F3148	B2m	Endogenous Control	21.046028	
ST 8F3148	B2m	Endogenous Control	21.120773	
ST 8F3148	B2m	Endogenous Control	21.168083	
ST 8F3148	B2m	Endogenous Control	21.206766	
ST 8F3148	B2m	Endogenous Control	21.312162	
ST 8F3148	B2m	Endogenous Control	21.310232	
ST 8F3148	B2m	Endogenous Control	21.299662	
ST 8F3151	B2m	Endogenous Control	21.219418	
ST 8F3151	B2m	Endogenous Control	21.234465	
ST 8F3151	B2m	Endogenous Control	21.334696	
ST 8F3151	B2m	Endogenous Control	21.376976	
ST 8F3151	B2m	Endogenous Control	21.416199	
ST 8F3151	B2m	Endogenous Control	21.317368	
ST 8F3151	B2m	Endogenous Control	21.376747	
ST 8F3151	B2m	Endogenous Control	21.27148	
ST 8F3152	B2m	Endogenous Control	21.117231	
ST 8F3152	B2m	Endogenous Control	21.170475	
ST 8F3152	B2m	Endogenous Control	21.261961	
ST 8F3152	B2m	Endogenous Control	21.3112	
ST 8F3152	B2m	Endogenous Control	21.348492	
ST 8F3152	B2m	Endogenous Control	21.325714	
ST 8F3152	B2m	Endogenous Control	21.346687	
ST 8F3152	B2m	Endogenous Control	21.313923	
ST 8F3153	B2m	Endogenous Control	21.117579	
ST 8F3153	B2m	Endogenous Control	21.146935	
ST 8F3153	B2m	Endogenous Control	21.357944	
ST 8F3153	B2m	Endogenous Control	21.374683	
ST 8F3153	B2m	Endogenous Control	21.323063	
ST 8F3153	B2m	Endogenous Control	21.29712	

Sample	Detector	Task	Ct	RQ
ST 8F3153	B2m	Endogenous Control	21.337337	
ST 8F3153	B2m	Endogenous Control	21.342518	
ST 8F3155	B2m	Endogenous Control	20.647362	
ST 8F3155	B2m	Endogenous Control	20.995031	
ST 8F3155	B2m	Endogenous Control	21.299965	
ST 8F3155	B2m	Endogenous Control	21.380775	
ST 8F3155	B2m	Endogenous Control	21.445232	
ST 8F3155	B2m	Endogenous Control	21.360247	
ST 8F3155	B2m	Endogenous Control	21.596308	
ST 8F3155	B2m	Endogenous Control	21.566214	
ST 8F3157	B2m	Endogenous Control	20.919487	
ST 8F3157	B2m	Endogenous Control	21.083006	
ST 8F3157	B2m	Endogenous Control	21.449232	
ST 8F3157	B2m	Endogenous Control	21.395369	
ST 8F3157	B2m	Endogenous Control	21.40667	
ST 8F3157	B2m	Endogenous Control	21.33543	
ST 8F3157	B2m	Endogenous Control	21.408628	
ST 8F3157	B2m	Endogenous Control	21.370937	
ST 8F3158	B2m	Endogenous Control	20.988472	
ST 8F3158	B2m	Endogenous Control	21.154491	
ST 8F3158	B2m	Endogenous Control	21.423115	
ST 8F3158	B2m	Endogenous Control	21.273426	
ST 8F3158	B2m	Endogenous Control	21.407057	
ST 8F3158	B2m	Endogenous Control	21.33942	
ST 8F3158	B2m	Endogenous Control	21.38168	
ST 8F3158	B2m	Endogenous Control	21.195404	
H2O	B2m	Endogenous Control	Undetermined	
H2O	B2m	Endogenous Control	Undetermined	
H2O	B2m	Endogenous Control	Undetermined	
H2O	B2m	Endogenous Control	Undetermined	
H2O	B2m	Endogenous Control	Undetermined	
H2O	B2m	Endogenous Control	Undetermined	
H2O	B2m	Endogenous Control	Undetermined	
H2O	B2m	Endogenous Control	Undetermined	
ST 5F3100	Cyp1a1	Target	33.648876	0.5445644
ST 5F3100	Cyp1a1	Target	33.95086	0.5445644
ST 5F3101	Cyp1a1	Target	33.86002	0.44510517
ST 5F3101	Cyp1a1	Target	33.78887	0.44510517
ST 5F3103	Cyp1a1	Target	33.82841	0.45444477
ST 5F3103	Cyp1a1	Target	33.57827	0.45444477
ST 5F3104	Cyp1a1	Target	33.54361	0.5069451
ST 5F3104	Cyp1a1	Target	33.499126	0.5069451
ST 5F3105	Cyp1a1	Target	33.52541	0.6787195
ST 5F3105	Cyp1a1	Target	33.45936	0.6787195
ST 5F3107	Cyp1a1	Target	34.12717	0.42363587
ST 5F3107	Cyp1a1	Target	33.8867	0.42363587
ST 5F3109	Cyp1a1	Target	34.91185	0.28665355
ST 5F3109	Cyp1a1	Target	35.196617	0.28665355
ST 5F3110	Cyp1a1	Target	34.237	0.3560253

Sample	Detector	Task	Ct	RQ
ST 5F3110	Cyp1a1	Target	34.61102	0.3560253
ST 5F3111	Cyp1a1	Target	33.876366	0.48589978
ST 5F3111	Cyp1a1	Target	33.471687	0.48589978
ST 5F3112	Cyp1a1	Target	33.368988	0.6396025
ST 5F3112	Cyp1a1	Target	33.735954	0.6396025
ST 6F3114	Cyp1a1	Target	32.865753	1
ST 6F3114	Cyp1a1	Target	32.973022	1
ST 6F3116	Cyp1a1	Target	33.36675	0.61284345
ST 6F3116	Cyp1a1	Target	33.36999	0.61284345
ST 6F3118	Cyp1a1	Target	33.664883	0.5614497
ST 6F3118	Cyp1a1	Target	33.538837	0.5614497
ST 6F3119	Cyp1a1	Target	33.23068	0.66083974
ST 6F3119	Cyp1a1	Target	33.331787	0.66083974
ST 6F3120	Cyp1a1	Target	34.129704	0.4595027
ST 6F3120	Cyp1a1	Target	33.85303	0.4595027
ST 6F3121	Cyp1a1	Target	33.3196	0.6977184
ST 6F3121	Cyp1a1	Target	33.427418	0.6977184
ST 6F3122	Cyp1a1	Target	33.56345	0.6853651
ST 6F3122	Cyp1a1	Target	33.590042	0.6853651
ST 6F3123	Cyp1a1	Target	33.651485	0.6736062
ST 6F3123	Cyp1a1	Target	33.335896	0.6736062
ST 6F3127	Cyp1a1	Target	33.386555	0.58500177
ST 6F3127	Cyp1a1	Target	33.49316	0.58500177
ST 6F3128	Cyp1a1	Target	33.883106	0.48277178
ST 6F3128	Cyp1a1	Target	33.741497	0.48277178
ST 7F3129	Cyp1a1	Target	33.173267	0.82621676
ST 7F3129	Cyp1a1	Target	33.2244	0.82621676
ST 7F3131	Cyp1a1	Target	33.276142	0.7047307
ST 7F3131	Cyp1a1	Target	33.24974	0.7047307
ST 7F3132	Cyp1a1	Target	33.248127	0.80457795
ST 7F3132	Cyp1a1	Target	33.200745	0.80457795
ST 7F3134	Cyp1a1	Target	33.0754	0.9217225
ST 7F3134	Cyp1a1	Target	32.96346	0.9217225
ST 7F3135	Cyp1a1	Target	33.16263	0.7015505
ST 7F3135	Cyp1a1	Target	33.291924	0.7015505
ST 7F3136	Cyp1a1	Target	33.39736	0.6098981
ST 7F3136	Cyp1a1	Target	33.50536	0.6098981
ST 7F3138	Cyp1a1	Target	33.265602	0.5763104
ST 7F3138	Cyp1a1	Target	33.89612	0.5763104
ST 7F3140	Cyp1a1	Target	33.71171	0.52214795
ST 7F3140	Cyp1a1	Target	33.918407	0.52214795
ST 7F3141	Cyp1a1	Target	33.18469	0.81366724
ST 7F3141	Cyp1a1	Target	33.139305	0.81366724
ST 7F3142	Cyp1a1	Target	32.956493	0.78040034
ST 7F3142	Cyp1a1	Target	33.150288	0.78040034
ST 8F3144	Cyp1a1	Target	33.432037	0.6368232
ST 8F3144	Cyp1a1	Target	33.51809	0.6368232
ST 8F3145	Cyp1a1	Target	33.184666	0.81798804
ST 8F3145	Cyp1a1	Target	32.98792	0.81798804

Sample	Detector	Task	Ct	RQ
ST 8F3146	Cyp1a1	Target	33.42985	0.61141264
ST 8F3146	Cyp1a1	Target	33.131676	0 61141264
ST 8F3148	Cyp1a1	Target	32.920746	0.8235046
ST 8F3148	Cyp1a1	Target	32.88806	0.8235046
ST 8F3151	Cyp1a1	Target	33.382336	0.63291687
ST 8F3151	Cyp1a1	Target	33.636345	0.63291687
ST 8F3152	Cyp1a1	Target	34.128517	0.39524
ST 8F3152	Cyp1a1	Target	34.082558	0.39524
ST 8F3153	Cyp1a1	Target	33.873943	0.44669685
ST 8F3153	Cyp1a1	Target	33.9608	0.44669685
ST 8F3155	Cyp1a1	Target	33.91143	0.38289198
ST 8F3155	Cyp1a1	Target	33.745914	0.38289198
ST 8F3157	Cyp1a1	Target	33.919712	0.43192157
ST 8F3157	Cyp1a1	Target	33.750076	0.43192157
ST 8F3158	Cyp1a1	Target	32.77286	0.97265303
ST 8F3158	Cyp1a1	Target	32.69508	0.97265303
H2O	Cyp1a1	Target	Undetermined	
H2O	Cyp1a1	Target	Undetermined	
ST 5F3100	Cyp2b10	Target	23.776989	32.62018
ST 5F3100	Cyp2b10	Target	23.819818	32.62018
ST 5F3101	Cyp2b10	Target	23.241333	38.050552
ST 5F3101	Cyp2b10	Target	23.378422	38.050552
ST 5F3103	Cyp2b10	Target	24.226625	18.079285
ST 5F3103	Cyp2b10	Target	24.357988	18.079285
ST 5F3104	Cyp2b10	Target	23.739965	25.457067
ST 5F3104	Cyp2b10	Target	23.808702	25.457067
ST 5F3105	Cyp2b10	Target	23.758976	31.892385
ST 5F3105	Cyp2b10	Target	23.923403	31.892385
ST 5F3107	Cyp2b10	Target	23.583986	32.753452
ST 5F3107	Cyp2b10	Target	23.69064	32.753452
ST 5F3109	Cyp2b10	Target	24.977371	17.311272
ST 5F3109	Cyp2b10	Target	25.104692	17.311272
ST 5F3110	Cyp2b10	Target	25.19467	12.397302
ST 5F3110	Cyp2b10	Target	25.21566	12.397302
ST 5F3111	Cyp2b10	Target	25.140327	10.648403
ST 5F3111	Cyp2b10	Target	25.106173	10.648403
ST 5F3112	Cyp2b10	Target	24.110909	26.719454
ST 5F3112	Cyp2b10	Target	24.031004	26.719454
ST 6F3114	Cyp2b10	Target	28.817808	1
ST 6F3114	Cyp2b10	Target	28.82708	1
ST 6F3116	Cyp2b10	Target	28.932846	0.78252757
ST 6F3116	Cyp2b10	Target	28.904762	0.78252757
ST 6F3118	Cyp2b10	Target	29 463797	0.60666525
ST 6F3118	Cyp2b10	Target	29.322552	0.60666525
ST 6F3119	Cyp2b10	Target	28.831968	0.84815043
ST 6F3119	Cyp2b10	Target	28.816576	0.84815043
ST 6F3120	Cyp2b10	Target	29.203316	0.7632177
ST 6F3120	Cyp2b10	Target	29.12149	0.7632177
ST 6F3121	Cyp2b10	Target	28.843174	0.9705336

Sample	Detector	Task	Ct	RQ
ST 6F3121	Cyp2b10	Target	28.75769	0.9705336
ST 6F3122	Cyp2b10	Target	30.64284	0.30447048
ST 6F3122	Cyp2b10	Target	30.657906	0.30447048
ST 6F3123	Cyp2b10	Target	28.739798	1.0508329
ST 6F3123	Cyp2b10	Target	28.770588	1.0508329
ST 6F3127	Cyp2b10	Target	29.123348	0.67813563
ST 6F3127	Cyp2b10	Target	29.136215	0.67813563
ST 6F3128	Cyp2b10	Target	29.819721	0.44998595
ST 6F3128	Cyp2b10	Target	29.81392	0.44998595
ST 7F3129	Cyp2b10	Target	29.2277	0.76718336
ST 7F3129	Cyp2b10	Target	29.189981	0.76718336
ST 7F3131	Cyp2b10	Target	28.310444	1.3388778
ST 7F3131	Cyp2b10	Target	28.169788	1.3388778
ST 7F3132	Cyp2b10	Target	28.676783	1.1092963
ST 7F3132	Cyp2b10	Target	28.651516	1.1092963
ST 7F3134	Cyp2b10	Target	28.16385	1.5815036
ST 7F3134	Cyp2b10	Target	28.123344	1.5815036
ST 7F3135	Cyp2b10	Target	28.1471	1.4009286
ST 7F3135	Cyp2b10	Target	28.118036	1.4009286
ST 7F3136	Cyp2b10	Target	28.639069	1.0402777
ST 7F3136	Cyp2b10	Target	28.529114	1.0402777
ST 7F3138	Cyp2b10	Target	28.488905	1.1727818
ST 7F3138	Cyp2b10	Target	28.428896	1.1727818
ST 7F3140	Cyp2b10	Target	28.015394	1.6661595
ST 7F3140	Cyp2b10	Target	28.07285	1.6661595
ST 7F3141	Cyp2b10	Target	28.08064	1.6195585
ST 7F3141	Cyp2b10	Target	28.063284	1.6195585
ST 7F3142	Cyp2b10	Target	28.889975	0.84266704
ST 7F3142	Cyp2b10	Target	28.801422	0.84266704
ST 8F3144	Cyp2b10	Target	23.102001	49.41486
ST 8F3144	Cyp2b10	Target	23.098421	49.41486
ST 8F3145	Cyp2b10	Target	23.40175	41.00877
ST 8F3145	Cyp2b10	Target	23.28153	41.00877
ST 8F3146	Cyp2b10	Target	23.642761	29.869406
ST 8F3146	Cyp2b10	Target	23.50412	29.869406
ST 8F3148	Cyp2b10	Target	28.340263	1.1795086
ST 8F3148	Cyp2b10	Target	28.237984	1.1795086
ST 8F3151	Cyp2b10	Target	24.334026	22.780378
ST 8F3151	Cyp2b10	Target	24.151503	22.780378
ST 8F3152	Cyp2b10	Target	28.357727	1.2783766
ST 8F3152	Cyp2b10	Target	28.27244	1.2783766
ST 8F3153	Cyp2b10	Target	28.332155	1.345518
ST 8F3153	Cyp2b10	Target	28.127117	1.345518
ST 8F3155	Cyp2b10	Target	24.58929	13.758155
ST 8F3155	Cyp2b10	Target	24.539762	13.758155
ST 8F3157	Cyp2b10	Target	28.537	1.0487717
ST 8F3157	Cyp2b10	Target	28.379179	1.0487717
ST 8F3158	Cyp2b10	Target	28.537413	1.1205504
ST 8F3158	Cyp2b10	Target	28.328222	1.1205504

Sample	Detector	Task	Ct	RQ
H2O	Cyp2b10	Target	Undetermined	
H2O	Cyp2b10	Target	Undetermined	
ST 5F3100	cyp2b9	Target	24.484613	0.9934614
ST 5F3100	cyp2b9	Target	24.621532	0.9934614
ST 5F3101	cyp2b9	Target	24.140505	1.0716178
ST 5F3101	cyp2b9	Target	24.214382	1.0716178
ST 5F3103	cyp2b9	Target	24.23105	0.8678496
ST 5F3103	cyp2b9	Target	24.550083	0.8678496
ST 5F3104	cyp2b9	Target	23.960318	1.0458004
ST 5F3104	cyp2b9	Target	24.234146	1.0458004
ST 5F3105	cyp2b9	Target	24.132458	1.3079368
ST 5F3105	cyp2b9	Target	24.200644	1.3079368
ST 5F3107	cyp2b9	Target	23.709436	1.3957707
ST 5F3107	cyp2b9	Target	24.105242	1.3957707
ST 5F3109	cyp2b9	Target	24.456871	1.1511984
ST 5F3109	cyp2b9	Target	24.881222	1.1511984
ST 5F3110	cyp2b9	Target	24.083866	1.2978326
ST 5F3110	cyp2b9	Target	24.27319	1.2978326
ST 5F3111	cyp2b9	Target	24.39827	0.87693346
ST 5F3111	cyp2b9	Target	24.487305	0.87693346
ST 5F3112	cyp2b9	Target	24.400148	1.1278747
ST 5F3112	cyp2b9	Target	24.309214	1.1278747
ST 6F3114	cyp2b9	Target	24.559074	1
ST 6F3114	cyp2b9	Target	24.52084	1
ST 6F3116	cyp2b9	Target	24 328096	1.00165
ST 6F3116	cyp2b9	Target	24.232206	1.00165
ST 6F3118	cyp2b9	Target	24 431265	0.9909441
ST 6F3118	cyp2b9	Target	24.374302	0.9909441
ST 6F3119	cyp2b9	Target	24.477154	0.9174624
ST 6F3119	cyp2b9	Target	24.379755	0.9174624
ST 6F3120	cyp2b9	Target	24.374851	1.0953845
ST 6F3120	cyp2b9	Target	24.342438	1.0953845
ST 6F3121	cyp2b9	Target	24.327421	1.1437995
ST 6F3121	cyp2b9	Target	24.234499	1.1437995
ST 6F3122	cyp2b9	Target	24.638533	1.0099796
ST 6F3122	cyp2b9	Target	24.63733	1.0099796
ST 6F3123	cyp2b9	Target	24.531492	0.98828554
ST 6F3123	cyp2b9	Target	24.59098	0.98828554
ST 6F3127	cyp2b9	Target	24.514408	0.8958479
ST 6F3127	cyp2b9	Target	24.376822	0.8958479
ST 6F3128	cyp2b9	Target	24.78005	0.79486156
ST 6F3128	cyp2b9	Target	24.646969	0.79486156
ST 7F3129	cyp2b9	Target	24.778273	0.8834021
ST 7F3129	cyp2b9	Target	24.667433	0.8834021
ST 7F3131	cyp2b9	Target	24.29143	1.062426
ST 7F3131	cyp2b9	Target	24.29115	1.062426
ST 7F3132	cyp2b9	Target	24.736034	0.8940814
ST 7F3132	cyp2b9	Target	24.649624	0.8940814
ST 7F3134	cyp2b9	Target	24.253286	1.250314

Sample	Detector	Task	Ct	RQ
ST 7F3134	cyp2b9	Target	24.146946	1.250314
ST 7F3135	cyp2b9	Target	24.383236	0.96251535
ST 7F3135	cyp2b9	Target	24.39993	0.96251535
ST 7F3136	cyp2b9	Target	24.371147	1.0087545
ST 7F3136	cyp2b9	Target	24.320845	1.0087545
ST 7F3138	cyp2b9	Target	24.549982	0.9113948
ST 7F3138	cyp2b9	Target	24.530415	0.9113948
ST 7F3140	cyp2b9	Target	24.244347	1.2003685
ST 7F3140	cyp2b9	Target	24.225018	1.2003685
ST 7F3141	cyp2b9	Target	24.532946	0.9751741
ST 7F3141	cyp2b9	Target	24.50974	0.9751741
ST 7F3142	cyp2b9	Target	24.454601	0.91622967
ST 7F3142	cyp2b9	Target	24.430328	0.91622967
ST 8F3144	cyp2b9	Target	24.216036	1.1893958
ST 8F3144	cyp2b9	Target	24.1727	1.1893958
ST 8F3145	cyp2b9	Target	24.159765	1.2224519
ST 8F3145	cyp2b9	Target	24.094704	1.2224519
ST 8F3146	cyp2b9	Target	23.914108	1.2062418
ST 8F3146	cyp2b9	Target	23.927952	1.2062418
ST 8F3148	cyp2b9	Target	24.405655	0.9754346
ST 8F3148	cyp2b9	Target	24.155752	0.9754346
ST 8F3151	cyp2b9	Target	24.178442	1.3007013
ST 8F3151	cyp2b9	Target	24.002972	1.3007013
ST 8F3152	cyp2b9	Target	24.179573	1.2170128
ST 8F3152	cyp2b9	Target	24.027554	1.2170128
ST 8F3153	cyp2b9	Target	24.283817	1.1715684
ST 8F3153	cyp2b9	Target	24.009922	1.1715684
ST 8F3155	cyp2b9	Target	24.098751	1.1168483
ST 8F3155	cyp2b9	Target	23.710888	1.1168483
ST 8F3157	cyp2b9	Target	24.03292	1.526161
ST 8F3157	cyp2b9	Target	23.23587	1.526161
ST 8F3158	cyp2b9	Target	24.543564	0.99968934
ST 8F3158	cyp2b9	Target	24.086407	0.99968934
H2O	cyp2b9	Target	Undetermined	
H2O	cyp2b9	Target	Undetermined	
ST 5F3100	cyp3a11	Target	20.899723	1.6973238
ST 5F3100	cyp3a11	Target	20.989536	1.6973238
ST 5F3101	cyp3a11	Target	20.622845	1.7464995
ST 5F3101	cyp3a11	Target	20.659456	1.7464995
ST 5F3103	cyp3a11	Target	21.037848	1.487659
ST 5F3103	cyp3a11	Target	21.079628	1.487659
ST 5F3104	cyp3a11	Target	20.825521	1.7266815
ST 5F3104	cyp3a11	Target	20.845844	1.7266815
ST 5F3105	cyp3a11	Target	20.580975	1.9738369
ST 5F3105	cyp3a11	Target	20.685087	1.9738369
ST 5F3107	cyp3a11	Target	20.871298	1.7636094
ST 5F3107	cyp3a11	Target	20.847599	1.7636094
ST 5F3109	cyp3a11	Target	22.080454	1.0554861
ST 5F3109	cyp3a11	Target	22.076729	1.0554861

Sample	Detector	Task	Ct	RQ
ST 5F3110	cyp3a11	Target	21.329557	1.4149729
ST 5F3110	cyp3a11	Target	21.247477	1.4149729
ST 5F3111	cyp3a11	Target	21.171484	1.3191081
ST 5F3111	cyp3a11	Target	21.144146	1.3191081
ST 5F3112	cyp3a11	Target	21.018188	1.5211351
ST 5F3112	cyp3a11	Target	20.999928	1.5211351
ST 6F3114	cyp3a11	Target	21.929058	1
ST 6F3114	cyp3a11	Target	21.93535	1
ST 6F3116	cyp3a11	Target	22.440767	0.6054506
ST 6F3116	cyp3a11	Target	22.38683	0.6054506
ST 6F3118	cyp3a11	Target	21.824408	0.87376714
ST 6F3118	cyp3a11	Target	21.771807	0.87376714
ST 6F3119	cyp3a11	Target	21.493805	1.0776005
ST 6F3119	cyp3a11	Target	21.496279	1.0776005
ST 6F3120	cyp3a11	Target	21.979689	0.7815702
ST 6F3120	cyp3a11	Target	22.028513	0.7815702
ST 6F3121	cyp3a11	Target	23.149355	0.43912458
ST 6F3121	cyp3a11	Target	23.033699	0.43912458
ST 6F3122	cyp3a11	Target	22.611588	0.59143144
ST 6F3122	cyp3a11	Target	22.636599	0.59143144
ST 6F3123	cyp3a11	Target	22.085047	0.74290764
ST 6F3123	cyp3a11	Target	22.082672	0.74290764
ST 6F3127	cyp3a11	Target	22.519325	0.5279412
ST 6F3127	cyp3a11	Target	22.478376	0.5279412
ST 6F3128	cyp3a11	Target	22.160425	0.72620094
ST 6F3128	cyp3a11	Target	22.154472	0.72620094
ST 7F3129	cyp3a11	Target	22.126087	0.7444266
ST 7F3129	cyp3a11	Target	22.171328	0.7444266
ST 7F3131	cyp3a11	Target	21.701492	0.8775678
ST 7F3131	cyp3a11	Target	21.709354	0.8775678
ST 7F3132	cyp3a11	Target	21.919775	0.8711603
ST 7F3132	cyp3a11	Target	21.847645	0.8711603
ST 7F3134	cyp3a11	Target	22.3879	0.6498152
ST 7F3134	cyp3a11	Target	22.309593	0.6498152
ST 7F3135	cyp3a11	Target	22.081596	0.65843016
ST 7F3135	cyp3a11	Target	22.11453	0.65843016
ST 7F3136	cyp3a11	Target	22.811432	0.4282756
ST 7F3136	cyp3a11	Target	22.81888	0.4282756
ST 7F3138	cyp3a11	Target	21.910963	0.8237507
ST 7F3138	cyp3a11	Target	21.901506	0.8237507
ST 7F3140	cyp3a11	Target	22.11412	0.7587407
ST 7F3140	cyp3a11	Target	22.161821	0.7587407
ST 7F3141	cyp3a11	Target	22.001558	0.8861077
ST 7F3141	cyp3a11	Target	21.95062	0.8861077
ST 7F3142	cyp3a11	Target	22.034286	0.7470255
ST 7F3142	cyp3a11	Target	21.996422	0.7470255
ST 8F3144	cyp3a11	Target	21.376503	1.2855594
ST 8F3144	cyp3a11	Target	21.361506	1.2855594
ST 8F3145	cyp3a11	Target	21.902151	0.92932594

Sample	Detector	Task	Ct	RQ
ST 8F3145	cyp3a11	Target	21.853409	0.92932594
ST 8F3146	cyp3a11	Target	21.639761	0.84038854
ST 8F3146	cyp3a11	Target	21.687265	0.84038854
ST 8F3148	cyp3a11	Target	21.938803	0.74524003
ST 8F3148	cyp3a11	Target	21.998327	0.74524003
ST 8F3151	cyp3a11	Target	21.591705	1.1199639
ST 8F3151	cyp3a11	Target	21.59289	1.1199639
ST 8F3152	cyp3a11	Target	22.228163	0.6893189
ST 8F3152	cyp3a11	Target	22.218336	0.6893189
ST 8F3153	cyp3a11	Target	22.19958	0.7746142
ST 8F3153	cyp3a11	Target	22.069775	0.7746142
ST 8F3155	cyp3a11	Target	22.05538	0.8240568
ST 8F3155	cyp3a11	Target	21.983557	0.8240568
ST 8F3157	cyp3a11	Target	23.252869	0.38293245
ST 8F3157	cyp3a11	Target	23.161236	0.38293245
ST 8F3158	cyp3a11	Target	22.061708	0.82558346
ST 8F3158	cyp3a11	Target	21.987688	0.82558346
H2O	cyp3a11	Target	Undetermined	
H2O	cyp3a11	Target	Undetermined	
ST 5F3100	sult1a1	Target	23.961588	1.4380926
ST 5F3100	sult1a1	Target	24.043509	1.4380926
ST 5F3101	sult1a1	Target	23.596645	1.552353
ST 5F3101	sult1a1	Target	23.663305	1 552353
ST 5F3103	sult1a1	Target	23.720043	1.5881498
ST 5F3103	sult1a1	Target	23.846455	1.5881498
ST 5F3104	sult1a1	Target	23.679512	1.611291
ST 5F3104	sult1a1	Target	23.82905	1.611291
ST 5F3105	sult1a1	Target	23.7668	1.5467848
ST 5F3105	sult1a1	Target	23.840345	1.5467848
ST 5F3107	sult1a1	Target	23.593306	1.8204077
ST 5F3107	sult1a1	Target	23.671753	1.8204077
ST 5F3109	sult1a1	Target	24.688375	1.2067028
ST 5F3109	sult1a1	Target	24.720106	1.2067028
ST 5F3110	sult1a1	Target	24.157398	1.3630427
ST 5F3110	sult1a1	Target	24.165148	1.3630427
ST 5F3111	sult1a1	Target	23.91674	1.3826572
ST 5F3111	sult1a1	Target	23.900753	1.3826572
ST 5F3112	sult1a1	Target	23.77301	1.6063714
ST 5F3112	sult1a1	Target	23.725416	1.6063714
ST 6F3114	sult1a1	Target	24.761923	1
ST 6F3114	sult1a1	Target	24.740112	1
ST 6F3116	sult1a1	Target	24.376764	1.089594
ST 6F3116	sult1a1	Target	24.39304	1.089594
ST 6F3118	sult1a1	Target	24.50524	0.9635696
ST 6F3118	sult1a1	Target	24.446323	0.9635696
ST 6F3119	sult1a1	Target	24.42679	1.0111245
ST 6F3119	sult1a1	Target	24.384644	1.0111245
ST 6F3120	sult1a1	Target	25.180452	0.6268113
ST 6F3120	sult1a1	Target	25.102064	0.6268113

Sample	Detector	Task	Ct	RQ
ST 6F3121	sult1a1	Target	24.689459	1.054203
ST 6F3121	sult1a1	Target	24.604319	1.054203
ST 6F3122	sult1a1	Target	24.890186	0.8533208
ST 6F3122	sult1a1	Target	24.93787	0.8533208
ST 6F3123	sult1a1	Target	24.567179	0.91258
ST 6F3123	sult1a1	Target	24.64463	0.91258
ST 6F3127	sult1a1	Target	24.340733	1.0402158
ST 6F3127	sult1a1	Target	24.33773	1.0402158
ST 6F3128	sult1a1	Target	24.505232	1.0121932
ST 6F3128	sult1a1	Target	24.489202	1.0121932
ST 7F3129	sult1a1	Target	24.497784	1.0275071
ST 7F3129	sult1a1	Target	24.507366	1.0275071
ST 7F3131	sult1a1	Target	24.273796	1.0074497
ST 7F3131	sult1a1	Target	24.376425	1.0074497
ST 7F3132	sult1a1	Target	24.546907	0.9901374
ST 7F3132	sult1a1	Target	24.488756	0.9901374
ST 7F3134	sult1a1	Target	23.985401	1.5035126
ST 7F3134	sult1a1	Target	23.92925	1.5035126
ST 7F3135	sult1a1	Target	24.191113	1.0864525
ST 7F3135	sult1a1	Target	24.197598	1.0864525
ST 7F3136	sult1a1	Target	24.338396	1.0652826
ST 7F3136	sult1a1	Target	24.300291	1.0652826
ST 7F3138	sult1a1	Target	24.262102	1.1016978
ST 7F3138	sult1a1	Target	24.349098	1.1016978
ST 7F3140	sult1a1	Target	24.065035	1.3900031
ST 7F3140	sult1a1	Target	24.101715	1.3900031
ST 7F3141	sult1a1	Target	24.30799	1.2147622
ST 7F3141	sult1a1	Target	24.371574	1.2147622
ST 7F3142	sult1a1	Target	24.292673	1.0815312
ST 7F3142	sult1a1	Target	24.30797	1.0815312
ST 8F3144	sult1a1	Target	24.135296	1.345212
ST 8F3144	sult1a1	Target	24.10946	1.345212
ST 8F3145	sult1a1	Target	23.960848	1.5608647
ST 8F3145	sult1a1	Target	23.936163	1.5608647
ST 8F3146	sult1a1	Target	23.93051	1.2176226
ST 8F3146	sult1a1	Target	23.964268	1.2176226
ST 8F3148	sult1a1	Target	24.472784	0.9356824
ST 8F3148	sult1a1	Target	24.445347	0.9356824
ST 8F3151	sult1a1	Target	24.182169	1.2909755
ST 8F3151	sult1a1	Target	24.230034	1.2909755
ST 8F3152	sult1a1	Target	24.398262	1.0556215
ST 8F3152	sult1a1	Target	24.456165	1.0556215
ST 8F3153	sult1a1	Target	24.387722	1.145437
ST 8F3153	sult1a1	Target	24.390564	1 145437
ST 8F3155	sult1a1	Target	24.02653	1.4808499
ST 8F3155	sult1a1	Target	23.958815	1.4808499
ST 8F3157	sult1a1	Target	24.387922	1.2111413
ST 8F3157	sult1a1	Target	24.341398	1.2111413
ST 8F3158	sult1a1	Target	24.6933	0.96252805

Sample	Detector	Task	Ct	RQ
ST 8F3158	sult1a1	Target	24.550896	0.96252805
H2O	sult1a1	Target	Undetermined	
H2O	sult1a1	Target	Undetermined	
ST 5F3100	sult2a2	Target	25.371355	5.301129
ST 5F3100	sult2a2	Target	25.383593	5.301129
ST 5F3101	sult2a2	Target	24.284433	9.471276
ST 5F3101	sult2a2	Target	24.271448	9.471276
ST 5F3103	sult2a2	Target	25.323725	5.2497964
ST 5F3103	sult2a2	Target	25.30708	5.2497964
ST 5F3104	sult2a2	Target	24.253704	11.072479
ST 5F3104	sult2a2	Target	24.207613	11.072479
ST 5F3105	sult2a2	Target	24.356836	10.131276
ST 5F3105	sult2a2	Target	24.341505	10.131276
ST 5F3107	sult2a2	Target	24.362526	10.411348
ST 5F3107	sult2a2	Target	24.385027	10.411348
ST 5F3109	sult2a2	Target	25.56467	6.2017326
ST 5F3109	sult2a2	Target	25.634745	6.2017326
ST 5F3110	sult2a2	Target	25.818787	4.2141485
ST 5F3110	sult2a2	Target	25.76108	4.2141485
ST 5F3111	sult2a2	Target	25.26333	5.04652
ST 5F3111	sult2a2	Target	25.33261	5.04652
ST 5F3112	sult2a2	Target	24.220823	10.89064
ST 5F3112	sult2a2	Target	24.269321	10.89064
ST 6F3114	sult2a2	Target	28.058403	1
ST 6F3114	sult2a2	Target	27.957773	1
ST 6F3116	sult2a2	Target	27.447735	1.2007208
ST 6F3116	sult2a2	Target	27.55599	1.2007208
ST 6F3118	sult2a2	Target	28.921692	0.41979223
ST 6F3118	sult2a2	Target	28.941433	0.41979223
ST 6F3119	sult2a2	Target	28.333775	0.6263475
ST 6F3119	sult2a2	Target	28.373646	0.6263475
ST 6F3120	sult2a2	Target	28.01059	0.81200373
ST 6F3120	sult2a2	Target	28.039154	0.81200373
ST 6F3121	sult2a2	Target	27.598358	1.3670781
ST 6F3121	sult2a2	Target	27.459673	1.3670781
ST 6F3122	sult2a2	Target	28.96747	0.49521664
ST 6F3122	sult2a2	Target	28.94478	0.49521664
ST 6F3123	sult2a2	Target	27.4182	1.2241727
ST 6F3123	sult2a2	Target	27.460176	1.2241727
ST 6F3127	sult2a2	Target	27.734446	0.9342436
ST 6F3127	sult2a2	Target	27.768177	0.9342436
ST 6F3128	sult2a2	Target	29.307747	0.34565836
ST 6F3128	sult2a2	Target	29.300959	0.34565836
ST 7F3129	sult2a2	Target	28.053133	0.83444107
ST 7F3129	sult2a2	Target	28.066689	0.83444107
ST 7F3131	sult2a2	Target	27.20013	1.3232076
ST 7F3131	sult2a2	Target	27.177567	1.3232076
ST 7F3132	sult2a2	Target	29.716852	0.25982267
ST 7F3132	sult2a2	Target	29.693151	0.25982267

Sample	Detector	Task	Ct	RQ
ST 7F3134	sult2a2	Target	25.598923	4.6649413
ST 7F3134	sult2a2	Target	25.562819	4.6649413
ST 7F3135	sult2a2	Target	27.474575	1.1088755
ST 7F3135	sult2a2	Target	27.369326	1.1088755
ST 7F3136	sult2a2	Target	27.184206	1.4183629
ST 7F3136	sult2a2	Target	27.142635	1.4183629
ST 7F3138	sult2a2	Target	30.00584	0.205446
ST 7F3138	sult2a2	Target	29.96529	0 205446
ST 7F3140	sult2a2	Target	26.867842	1.9960271
ST 7F3140	sult2a2	Target	26.768957	1.9960271
ST 7F3141	sult2a2	Target	27.380745	1.4408654
ST 7F3141	sult2a2	Target	27.320435	1.4408654
ST 7F3142	sult2a2	Target	28.866434	0.45010078
ST 7F3142	sult2a2	Target	28.777857	0.45010078
ST 8F3144	sult2a2	Target	26.27043	2.9401565
ST 8F3144	sult2a2	Target	26.232347	2.9401565
ST 8F3145	sult2a2	Target	26.452993	2.7091808
ST 8F3145	sult2a2	Target	26.367132	2.7091808
ST 8F3146	sult2a2	Target	27.732111	0.8417462
ST 8F3146	sult2a2	Target	27.742022	0.8417462
ST 8F3148	sult2a2	Target	28.456303	0.5684444
ST 8F3148	sult2a2	Target	28.413963	0.5684444
ST 8F3151	sult2a2	Target	26.132792	3.3062522
ST 8F3151	sult2a2	Target	26.080078	3.3062522
ST 8F3152	sult2a2	Target	27.075653	1.5933928
ST 8F3152	sult2a2	Target	27.104893	1.5933928
ST 8F3153	sult2a2	Target	28.584576	0.59731394
ST 8F3153	sult2a2	Target	28.586523	0.59731394
ST 8F3155	sult2a2	Target	26.855667	1.9495903
ST 8F3155	sult2a2	Target	26.850323	1.9495903
ST 8F3157	sult2a2	Target	27.06537	1.8129454
ST 8F3157	sult2a2	Target	27.014153	1.8129454
ST 8F3158	sult2a2	Target	28.042618	0.8799553
ST 8F3158	sult2a2	Target	27.974512	0.8799553
H2O	sult2a2	Target	Undetermined	
H2O	sult2a2	Target	Undetermined	
ST 5F3100	sultn	Target	25.693634	1.4716262
ST 5F3100	sultn	Target	25.767504	1.4716262
ST 5F3101	sultn	Target	25.139732	1.8976243
ST 5F3101	sultn	Target	25.225054	1.8976243
ST 5F3103	sultn	Target	25.443533	1.7331127
ST 5F3103	sultn	Target	25.428942	1.7331127
ST 5F3104	sultn	Target	25.725128	1.5553029
ST 5F3104	sultn	Target	25.648232	1.5553029
ST 5F3105	sultn	Target	25.296701	2.1654572
ST 5F3105	sultn	Target	25.213114	2.1654572
ST 5F3107	sultn	Target	25.259195	2.3331308
ST 5F3107	sultn	Target	25.258308	2.3331308
ST 5F3109	sultn	Target	26.443825	1.3066233

Sample	Detector	Task	Ct	RQ
ST 5F3109	sultn	Target	26.471136	1.3066233
ST 5F3110	sultn	Target	25.778524	1.6405071
ST 5F3110	sultn	Target	25.684334	1.6405071
ST 5F3111	sultn	Target	25 866993	1.3447746
ST 5F3111	sultn	Target	25.88848	1.3447746
ST 5F3112	sultn	Target	25.964338	1.3691345
ST 5F3112	sultn	Target	25.97373	1.3691345
ST 6F3114	sultn	Target	26.6236	1
ST 6F3114	sultn	Target	26.613928	1
ST 6F3116	sultn	Target	26.416643	0.8888556
ST 6F3116	sultn	Target	26.46925	0.8888556
ST 6F3118	sultn	Target	26.406067	0.9389341
ST 6F3118	sultn	Target	26.346655	0.9389341
ST 6F3119	sultn	Target	26.568653	0.82382697
ST 6F3119	sultn	Target	26.566906	0.82382697
ST 6F3120	sultn	Target	26.990292	0.66619515
ST 6F3120	sultn	Target	26.930502	0.66619515
ST 6F3121	sultn	Target	26.668335	0.89366186
ST 6F3121	sultn	Target	26.630869	0.89366186
ST 6F3122	sultn	Target	27.331928	0.54764515
ST 6F3122	sultn	Target	27.248468	0.54764515
ST 6F3123	sultn	Target	26.135763	1.1353866
ST 6F3123	sultn	Target	26.075476	1.1353866
ST 6F3127	sultn	Target	26.208609	0.92398936
ST 6F3127	sultn	Target	26.268068	0.92398936
ST 6F3128	sultn	Target	26.386024	0.76599354
ST 6F3128	sultn	Target	26.75059	0.76599354
ST 7F3129	sultn	Target	26.586994	0.82911426
ST 7F3129	sultn	Target	26.539633	0.82911426
ST 7F3131	sultn	Target	26.506474	0.78195053
ST 7F3131	sultn	Target	26.49729	0.78195053
ST 7F3132	sultn	Target	26.680128	0.68944013
ST 7F3132	sultn	Target	26.778385	0.68944013
ST 7F3134	sultn	Target	26.28344	0.9788037
ST 7F3134	sultn	Target	26.330112	0.9788037
ST 7F3135	sultn	Target	26.238579	0.956911
ST 7F3135	sultn	Target	26.33019	0.956911
ST 7F3136	sultn	Target	26.919125	0.68161416
ST 7F3136	sultn	Target	26.82727	0.68161416
ST 7F3138	sultn	Target	26.300737	1.0070583
ST 7F3138	sultn	Target	26.268951	1.0070583
ST 7F3140	sultn	Target	26.236675	1.1222346
ST 7F3140	sultn	Target	26.252848	1.1222346
ST 7F3141	sultn	Target	26.613796	0.8532554
ST 7F3141	sultn	Target	26.67602	0.8532554
ST 7F3142	sultn	Target	26.716808	0.7158886
ST 7F3142	sultn	Target	26.687258	0.7158886
ST 8F3144	sultn	Target	25.911728	1.291643
ST 8F3144	sultn	Target	25.892838	1.291643

Sample	Detector	Task	Ct	RQ
ST 8F3145	sultn	Target	25.937765	1.2879206
ST 8F3145	sultn	Target	25.926828	1.2879206
ST 8F3146	sultn	Target	26.437513	0.7993118
ST 8F3146	sultn	Target	26.44331	0.7993118
ST 8F3148	sultn	Target	26.494118	0.84998125
ST 8F3148	sultn	Target	26.49452	0.84998125
ST 8F3151	sultn	Target	26.283417	1.1089958
ST 8F3151	sultn	Target	26.152357	1.1089958
ST 8F3152	sultn	Target	26.803583	0.7313295
ST 8F3152	sultn	Target	26.77415	0.7313295
ST 8F3153	sultn	Target	26.593758	0.85630095
ST 8F3153	sultn	Target	26.474764	0.85630095
ST 8F3155	sultn	Target	26.970964	0 69203913
ST 8F3155	sultn	Target	26.89738	0.69203913
ST 8F3157	sultn	Target	26.675268	0.83709407
ST 8F3157	sultn	Target	26.580626	0.83709407
ST 8F3158	sultn	Target	26.64162	0.8540296
ST 8F3158	sultn	Target	26.560856	0.8540296
H2O	sultn	Target	Undetermined	
H2O	sultn	Target	Undetermined	
ST 5F3100	ugt1a1	Target	23.320324	1.3776047
ST 5F3100	ugt1a1	Target	23.332182	1.3776047
ST 5F3101	ugt1a1	Target	23.029488	1.5118964
ST 5F3101	ugt1a1	Target	22.991835	1.5118964
ST 5F3103	ugt1a1	Target	23.348398	1.2907144
ST 5F3103	ugt1a1	Target	23.375338	1.2907144
ST 5F3104	ugt1a1	Target	23.289091	1.4764708
ST 5F3104	ugt1a1	Target	23.235222	1.4764708
ST 5F3105	ugt1a1	Target	23.227201	1.617361
ST 5F3105	ugt1a1	Target	23.125546	1.617361
ST 5F3107	ugt1a1	Target	23.341162	1.5304648
ST 5F3107	ugt1a1	Target	23.393805	1.5304648
ST 5F3109	ugt1a1	Target	24.42129	0.973636
ST 5F3109	ugt1a1	Target	24.34332	0 973636
ST 5F3110	ugt1a1	Target	23.39465	1.5009267
ST 5F3110	ugt1a1	Target	23.325657	1.5009267
ST 5F3111	ugt1a1	Target	23.160261	1.5538889
ST 5F3111	ugt1a1	Target	23.179043	1.5538889
ST 5F3112	ugt1a1	Target	23.3746	1.4601358
ST 5F3112	ugt1a1	Target	23.378662	1.4601358
ST 6F3114	ugt1a1	Target	24 097555	1
ST 6F3114	ugt1a1	Target	24.14084	1
ST 6F3116	ugt1a1	Target	23.948898	0.8726381
ST 6F3116	ugt1a1	Target	23.990997	0.8726381
ST 6F3118	ugt1a1	Target	23.93225	0.895411
ST 6F3118	ugt1a1	Target	23.958294	0.895411
ST 6F3119	ugt1a1	Target	24.236666	0.7410605
ST 6F3119	ugt1a1	Target	24.205263	0.7410605
ST 6F3120	ugt1a1	Target	24.624523	0.6031608

Sample	Detector	Task	Ct	RQ
ST 6F3120	ugt1a1	Target	24.58394	0.6031608
ST 6F3121	ugt1a1	Target	24.3053	0.8324016
ST 6F3121	ugt1a1	Target	24.19967	0.8324016
ST 6F3122	ugt1a1	Target	24.3422	0.7319805
ST 6F3122	ugt1a1	Target	24.40194	0.7319805
ST 6F3123	ugt1a1	Target	24.198465	0.7425875
ST 6F3123	ugt1a1	Target	24.238743	0.7425875
ST 6F3127	ugt1a1	Target	24.084192	0.72653127
ST 6F3127	ugt1a1	Target	24.087059	0.72653127
ST 6F3128	ugt1a1	Target	24.22281	0.67859393
ST 6F3128	ugt1a1	Target	24.264238	0.67859393
ST 7F3129	ugt1a1	Target	24.207806	0.765787
ST 7F3129	ugt1a1	Target	24.148947	0.765787
ST 7F3131	ugt1a1	Target	23.96262	0.8049088
ST 7F3131	ugt1a1	Target	23.958513	0.8049088
ST 7F3132	ugt1a1	Target	24.358782	0.6483332
ST 7F3132	ugt1a1	Target	24.277979	0.6483332
ST 7F3134	ugt1a1	Target	23.90819	0.9383037
ST 7F3134	ugt1a1	Target	23.82816	0.9383037
ST 7F3135	ugt1a1	Target	23.979301	0.8227483
ST 7F3135	ugt1a1	Target	24.026205	0.8227483
ST 7F3136	ugt1a1	Target	24.203138	0.76906
ST 7F3136	ugt1a1	Target	24.195845	0.76906
ST 7F3138	ugt1a1	Target	24.140831	0.78829885
ST 7F3138	ugt1a1	Target	24.13639	0.78829885
ST 7F3140	ugt1a1	Target	24.082092	0.88266546
ST 7F3140	ugt1a1	Target	24.101173	0.88266546
ST 7F3141	ugt1a1	Target	24.262222	0.78661853
ST 7F3141	ugt1a1	Target	24.26309	0.78661853
ST 7F3142	ugt1a1	Target	24.25998	0.69199884
ST 7F3142	ugt1a1	Target	24.242887	0.69199884
ST 8F3144	ugt1a1	Target	23.922455	0.9146914
ST 8F3144	ugt1a1	Target	23.878681	0.9146914
ST 8F3145	ugt1a1	Target	23.890442	0.9672224
ST 8F3145	ugt1a1	Target	23.801268	0.9672224
ST 8F3146	ugt1a1	Target	23.969076	0.799203
ST 8F3146	ugt1a1	Target	23.913008	0 799203
ST 8F3148	ugt1a1	Target	24.231337	0.7355135
ST 8F3148	ugt1a1	Target	24.175533	0.7355135
ST 8F3151	ugt1a1	Target	23.89402	0.99719846
ST 8F3151	ugt1a1	Target	23.849228	0.99719846
ST 8F3152	ugt1a1	Target	24.214808	0.76567155
ST 8F3152	ugt1a1	Target	24.23139	0.76567155
ST 8F3153	ugt1a1	Target	24.19461	0.7781132
ST 8F3153	ugt1a1	Target	24.151056	0.7781132
ST 8F3155	ugt1a1	Target	24.266546	0.7946315
ST 8F3155	ugt1a1	Target	24.203808	0.7946315
ST 8F3157	ugt1a1	Target	24.123123	0.8390741
ST 8F3157	ugt1a1	Target	24.126823	0.8390741

Sample	Detector	Task	Ct	RQ
ST 8F3158	ugt1a1	Target	24.160181	0.8396855
ST 8F3158	ugt1a1	Target	24.092041	0.8396855
H2O	ugt1a1	Target	Undetermined	
H2O	ugt1a1	Target	Undetermined	
ST 5F3100	Ugt2b1	Target	24.528	1.2761341
ST 5F3100	Ugt2b1	Target	24.464943	1.2761341
ST 5F3101	Ugt2b1	Target	24.40551	1.182486
ST 5F3101	Ugt2b1	Target	24.44259	1.182486
ST 5F3103	Ugt2b1	Target	24.500908	1.2260646
ST 5F3103	Ugt2b1	Target	24.474934	1.2260646
ST 5F3104	Ugt2b1	Target	24.689154	1.0931493
ST 5F3104	Ugt2b1	Target	24.682993	1.0931493
ST 5F3105	Ugt2b1	Target	24.30537	1.4620442
ST 5F3105	Ugt2b1	Target	24.307594	1.4620442
ST 5F3107	Ugt2b1	Target	24.968882	1.0084199
ST 5F3107	Ugt2b1	Target	24.94596	1.0084199
ST 5F3109	Ugt2b1	Target	25.724514	0.8019517
ST 5F3109	Ugt2b1	Target	25.573076	0.8019517
ST 5F3110	Ugt2b1	Target	24.596193	1.2387964
ST 5F3110	Ugt2b1	Target	24.52176	1.2387964
ST 5F3111	Ugt2b1	Target	24.710037	1.1192962
ST 5F3111	Ugt2b1	Target	24.769077	1.1192962
ST 5F3112	Ugt2b1	Target	24.502289	1.338922
ST 5F3112	Ugt2b1	Target	24.576603	1.338922
ST 6F3114	Ugt2b1	Target	25.080782	1
ST 6F3114	Ugt2b1	Target	25.081913	1
ST 6F3116	Ugt2b1	Target	24.899881	0 91997665
ST 6F3116	Ugt2b1	Target	24.857555	0.91997665
ST 6F3118	Ugt2b1	Target	24.746851	1.0164912
ST 6F3118	Ugt2b1	Target	24.787872	1.0164912
ST 6F3119	Ugt2b1	Target	24.790754	1.0263069
ST 6F3119	Ugt2b1	Target	24.789623	1.0263069
ST 6F3120	Ugt2b1	Target	25.45618	0.69116133
ST 6F3120	Ugt2b1	Target	25.403864	0.69116133
ST 6F3121	Ugt2b1	Target	25.332235	0.7851702
ST 6F3121	Ugt2b1	Target	25.306435	0.7851702
ST 6F3122	Ugt2b1	Target	25.53515	0.67696667
ST 6F3122	Ugt2b1	Target	25.598448	0.67696667
ST 6F3123	Ugt2b1	Target	24.746244	1.0414832
ST 6F3123	Ugt2b1	Target	24.733719	1.0414832
ST 6F3127	Ugt2b1	Target	24.928831	0.8321925
ST 6F3127	Ugt2b1	Target	24.829285	0.8321925
ST 6F3128	Ugt2b1	Target	24.658283	1.1260123
ST 6F3128	Ugt2b1	Target	24.650417	1.1260123
ST 7F3129	Ugt2b1	Target	24.672365	1.1276288
ST 7F3129	Ugt2b1	Target	24.627832	1.1276288
ST 7F3131	Ugt2b1	Target	24.999868	0.84256566
ST 7F3131	Ugt2b1	Target	24.979822	0.84256566
ST 7F3132	Ugt2b1	Target	24.701815	1.0941064

Sample	Detector	Task	Ct	RQ
ST 7F3132	Ugt2b1	Target	24.586063	1.0941064
ST 7F3134	Ugt2b1	Target	25.372982	0.6751406
ST 7F3134	Ugt2b1	Target	25.343245	0.6751406
ST 7F3135	Ugt2b1	Target	25.148062	0.75021935
ST 7F3135	Ugt2b1	Target	25.21463	0.75021935
ST 7F3136	Ugt2b1	Target	25.54628	0.6128297
ST 7F3136	Ugt2b1	Target	25.574183	0.6128297
ST 7F3138	Ugt2b1	Target	24.88062	1.0149294
ST 7F3138	Ugt2b1	Target	24.803574	1.0149294
ST 7F3140	Ugt2b1	Target	25.111454	0.88868046
ST 7F3140	Ugt2b1	Target	25.132418	0.88868046
ST 7F3141	Ugt2b1	Target	25.13328	0.90306246
ST 7F3141	Ugt2b1	Target	25.166683	0.90306246
ST 7F3142	Ugt2b1	Target	24.9451	0.8837584
ST 7F3142	Ugt2b1	Target	24.943287	0.8837584
ST 8F3144	Ugt2b1	Target	24.680214	1.118811
ST 8F3144	Ugt2b1	Target	24.571909	1.118811
ST 8F3145	Ugt2b1	Target	24.909224	0.95601577
ST 8F3145	Ugt2b1	Target	24.881006	0.95601577
ST 8F3146	Ugt2b1	Target	25.234503	0.676336
ST 8F3146	Ugt2b1	Target	25.224611	0.676336
ST 8F3148	Ugt2b1	Target	25.149168	0.8421313
ST 8F3148	Ugt2b1	Target	25.071297	0.8421313
ST 8F3151	Ugt2b1	Target	24.863882	1.0284585
ST 8F3151	Ugt2b1	Target	24.818184	1.0284585
ST 8F3152	Ugt2b1	Target	25.214937	0.7967659
ST 8F3152	Ugt2b1	Target	25.216022	0.7967659
ST 8F3153	Ugt2b1	Target	25.153206	0.8550803
ST 8F3153	Ugt2b1	Target	25.093195	0.8550803
ST 8F3155	Ugt2b1	Target	25.863308	0.6286953
ST 8F3155	Ugt2b1	Target	25.753157	0.6286953
ST 8F3157	Ugt2b1	Target	25.606367	0.6329403
ST 8F3157	Ugt2b1	Target	25.60772	0.6329403
ST 8F3158	Ugt2b1	Target	25.463778	0.6781204
ST 8F3158	Ugt2b1	Target	25.348886	0.6781204
H2O	Ugt2b1	Target	Undetermined	
H2O	Ugt2b1	Target	Undetermined	
ST 5F3100	ugt2b5	Target	24.571716	0.9959574
ST 5F3100	ugt2b5	Target	24.578173	0.9959574
ST 5F3101	ugt2b5	Target	24.499832	0.9625026
ST 5F3101	ugt2b5	Target	24.383884	0.9625026
ST 5F3103	ugt2b5	Target	24.492697	1.0101411
ST 5F3103	ugt2b5	Target	24.483795	1.0101411
ST 5F3104	ugt2b5	Target	24.650274	0.9536211
ST 5F3104	ugt2b5	Target	24.557571	0.9536211
ST 5F3105	ugt2b5	Target	24.475094	1.1038234
ST 5F3105	ugt2b5	Target	24.390522	1.1038234
ST 5F3107	ugt2b5	Target	24.984226	0.82708776
ST 5F3107	ugt2b5	Target	24.944277	0.82708776

Sample	Detector	Task	Ct	RQ
ST 5F3109	ugt2b5	Target	25.98417	0.52659166
ST 5F3109	ugt2b5	Target	25.968779	0.52659166
ST 5F3110	ugt2b5	Target	25.290016	0.6465075
ST 5F3110	ugt2b5	Target	25.146032	0.6465075
ST 5F3111	ugt2b5	Target	24.95108	0.7934756
ST 5F3111	ugt2b5	Target	24.962399	0.7934756
ST 5F3112	ugt2b5	Target	24.901619	0.9046924
ST 5F3112	ugt2b5	Target	24.750114	0.9046924
ST 6F3114	ugt2b5	Target	24.832575	1
ST 6F3114	ugt2b5	Target	24.77182	1
ST 6F3116	ugt2b5	Target	24.95471	0.7473426
ST 6F3116	ugt2b5	Target	24.84408	0.7473426
ST 6F3118	ugt2b5	Target	24.61845	0.94198275
ST 6F3118	ugt2b5	Target	24.577616	0.94198275
ST 6F3119	ugt2b5	Target	24.66919	0.9165204
ST 6F3119	ugt2b5	Target	24.67933	0.9165204
ST 6F3120	ugt2b5	Target	25.680786	0.47593763
ST 6F3120	ugt2b5	Target	25.697456	0.47593763
ST 6F3121	ugt2b5	Target	25.535294	0.5733632
ST 6F3121	ugt2b5	Target	25.452185	0.5733632
ST 6F3122	ugt2b5	Target	25.468712	0.59006625
ST 6F3122	ugt2b5	Target	25.503	0.59006625
ST 6F3123	ugt2b5	Target	24.905607	0.7862401
ST 6F3123	ugt2b5	Target	24.82725	0.7862401
ST 6F3127	ugt2b5	Target	24.979763	0.6420951
ST 6F3127	ugt2b5	Target	24.96831	0.6420951
ST 6F3128	ugt2b5	Target	24.909412	0.7767452
ST 6F3128	ugt2b5	Target	24.912401	0.7767452
ST 7F3129	ugt2b5	Target	24.910091	0.7721439
ST 7F3129	ugt2b5	Target	24.924505	0.7721439
ST 7F3131	ugt2b5	Target	25.136925	0.6201725
ST 7F3131	ugt2b5	Target	25.1687	0.6201725
ST 7F3132	ugt2b5	Target	25.087805	0.6801927
ST 7F3132	ugt2b5	Target	25.013245	0.6801927
ST 7F3134	ugt2b5	Target	25.383184	0.560033
ST 7F3134	ugt2b5	Target	25.314087	0.560033
ST 7F3135	ugt2b5	Target	24.954401	0.71446466
ST 7F3135	ugt2b5	Target	24.990887	0.71446466
ST 7F3136	ugt2b5	Target	25.559263	0.50361365
ST 7F3136	ugt2b5	Target	25.56923	0.50361365
ST 7F3138	ugt2b5	Target	24.816793	0.8518273
ST 7F3138	ugt2b5	Target	24.814589	0.8518273
ST 7F3140	ugt2b5	Target	25.425379	0.59405434
ST 7F3140	ugt2b5	Target	25.42233	0.59405434
ST 7F3141	ugt2b5	Target	25.443668	0.6044125
ST 7F3141	ugt2b5	Target	25.456577	0.6044125
ST 7F3142	ugt2b5	Target	24.94243	0.72167104
ST 7F3142	ugt2b5	Target	24.972277	0.72167104
ST 8F3144	ugt2b5	Target	24.891802	0.7800001

Sample	Detector	Task	Ct	RQ
ST 8F3144	ugt2b5	Target	24.842857	0.7800001
ST 8F3145	ugt2b5	Target	24.963844	0.7304203
ST 8F3145	ugt2b5	Target	25.044697	0.7304203
ST 8F3146	ugt2b5	Target	25.183357	0.56930476
ST 8F3146	ugt2b5	Target	25.21453	0.56930476
ST 8F3148	ugt2b5	Target	25.029318	0.750509
ST 8F3148	ugt2b5	Target	24.965199	0.750509
ST 8F3151	ugt2b5	Target	24.895863	0.81937885
ST 8F3151	ugt2b5	Target	24.883661	0.81937885
ST 8F3152	ugt2b5	Target	25.254246	0.6467597
ST 8F3152	ugt2b5	Target	25.220266	0.6467597
ST 8F3153	ugt2b5	Target	25.369164	0.5877492
ST 8F3153	ugt2b5	Target	25.400652	0.5877492
ST 8F3155	ugt2b5	Target	25.499887	0.6548916
ST 8F3155	ugt2b5	Target	25.440481	0.6548916
ST 8F3157	ugt2b5	Target	25.70079	0.5163991
ST 8F3157	ugt2b5	Target	25.542158	0.5163991
ST 8F3158	ugt2b5	Target	25.3138	0.61613125
ST 8F3158	ugt2b5	Target	25.217167	0.61613125
H2O	ugt2b5	Target	Undetermined	
H2O	ugt2b5	Target	Undetermined	

APPENDIX P - **ANALYTICAL REPORTS**

Bayer CropScience

TERTIARY BUTANOL
MECHANISTIC 14-DAY TOXICITY STUDY IN THE MOUSE
(HEPATOTOXICITY AND THYROID HORMONE INVESTIGATIONS)

ANALYTICAL REPORT

AUTHOR:

L. AMIR TAHMASSEB
Senior Chemist

STUDY: SA 08160

STUDY DIRECTOR: O. BLANCK

DATE: MARCH 19, 2009

PAGE 1 OF 9

ANALYTICAL REPORT :	SA 08160	2 / 9

STUDY PROFESSIONALS

RESPONSIBLE TECHNICIAN FOR ANALYSIS: A. LANGLOIS

REPORT PREPARED BY: L. AMIR TAHMASSEB

ANALYTICAL REPORT :	SA 08160	3 / 9

TABLE OF CONTENTS

STUDY PROFESSIONALS 2

TABLE OF CONTENTS 3

TERTIARY BUTANOL AND PHENOBARBITAL SODIUM SALT CONCENTRATION IN AQUEOUS SOLUTION OR AQUEOUS METHYLCELLULOSE 4

1 - INTRODUCTION 4

2 - MATERIAL AND METHODS 4

2.1 Test substances 4

2.2 Analytical method 5

3 - ANALYTICAL STUDY SA 08160 6

4 - ANALYTICAL STUDY DESIGN DEVIATIONS 7

5 - ARCHIVING 7

DATA SHEETS 8

A - ANALYTICAL STUDY SA 08160 8

A1 - Homogeneity 8

A2 - Concentration 8

A3 - Method validation 9

B - DEFINITIONS AND TARGET RANGES 9

TERTIARY BUTANOL AND PHENOBARBITAL SODIUM SALT CONCENTRATION IN AQUEOUS SOLUTION OR AQUEOUS METHYLCELLULOSE

1 - INTRODUCTION

The purpose of the analytical study SA 08160 was to check the homogeneity and concentration of phenobarbital sodium salt in aqueous methylcellulose suspension administered to the mouse. The checking of the concentration of tertiary butanol in aqueous solutions administered to the mouse will be performed by the laboratory Defitraces (Brindas, France).

The stability of phenobarbital in aqueous methylcellulose was demonstrated in the previous study SA 03310 at 8 g/l for a time period that covers the period of storage and usage for the current study.

The stability of tertiary butanol in aqueous solution was demonstrated in a parallel study by the laboratory Defitraces at 2 and 20 g/l for a time period that covers the period of storage and usage for the current study.

2 - MATERIAL AND METHODS

2.1 Test substances

Company code number: Tertiary butanol

Alias: t-Butyl alcohol,
Tebol 99 alcohol,
Tert-butanol,
T-Butanol
2-methyl,2-propanol

Chemical structure:

Chemical formula: $C_4H_{10}O$

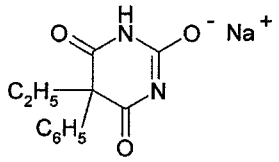
Molecular weight: 74.12

Tertiary butanol batch number HL80417001 was used throughout the study. It was provided by the sponsor with a certificate of analysis (included in the final report). The test substance was stored in an air tight, light-resistant container.

ANALYTICAL REPORT :	SA 08160	5/9

Company code number: Phenobarbital sodium salt

Chemical structure:



Chemical formula: $C_{12}H_{11}N_2NaO_3$

Molecular weight: 254.22

Phenobarbital batch number 06100228 was used throughout the study. It was provided by the supplier with a certificate of analysis (included in the final report). The test substance was stored in an air tight, light-resistant container.

2.2 Analytical method

a/Methods References

Validation of the analytical method for the determination of t-butyl alcohol in an aqueous solution; reference 08-902017-001, Défitraces, Brindas, France, 2008

Clofibric acid, beta-naphtoflavone & Phenobarbital: determination by High Performance Liquid Chromatography Analysis in aqueous methylcellulose, ANL/217-99E, M. VINCENT, JP. TASSEL, Rhône-Poulenc Agro, Sophia Antipolis Research Centre, 1999.

b/Principle

Tertiary Butanol: the quantification was performed by Gas Chromatography (GC) using a Flame Ionization Detector (FID). The sampling issued from the 20 g/l t-butyl alcohol were diluted ten fold with water before analysis in order to be in the same conditions as those defined during the analytical method validation.

Phenobarbital suspensions were diluted with acetonitrile.
The quantification was performed by High Performance Liquid Chromatography (HPLC) using UltraViolet (UV) detection at 225 nm and external standardization. (Adaptation: standards diluted in a mixture of acetonitrile and water).

c/Methods Deviation

No deviation to the methods occurred.

d/Method Validation

Phenobarbital :
The retention time of Phenobarbital sodium salt was approximately 4-5 min.
The detector response was found to be linear within the calibration range.
To confirm the method validation, samples were spiked during the study from 0.1 to 8 g/l. The recoveries ranged between 98 and 100% of the nominal concentration (data sheet A3). The results were therefore within the in-house target ranges (data sheet B).

3 - ANALYTICAL STUDY SA 08160

Tertiary Butanol:

One aqueous solution of tertiary butanol of approximately 15 l was prepared at 2 and 20 g/l. The formulation was stored at 5°C ± 3°C.

Phenobarbital:

One formulation of approximately 400 ml of methylcellulose suspension was prepared at the dose level of 8 g/l.

The formulation was stored at 5°C ± 3°C and allowed to reach room temperature under continuous magnetic stirring before sampling and use. Care was taken to sample along the side of the flask to avoid the vortex created by continuous magnetic stirring. A precise weighing of approximately 2 g was taken from each sample and was analysed according to the above analytical method.

Homogeneity and concentrations were checked according to the analytical protocol.

Homogeneity:

Phenobarbital : The homogeneity of the preparation at 8 g/l was checked. The sampling was done at two levels, the surface (H) and bottom (B). At each level, three samples (a, b and c) were taken. Sample a was analyzed, samples b and c were kept frozen for possible verification purposes.

Three control samples (Ta, Tb and Tc) were also taken and one of them (Ta) was analyzed, the two others were stored frozen for possible verification purpose.

Concentration:

Phenobarbital : The mean values obtained from the homogeneity checks were used as measured concentrations.

Tertiary butanol: The concentration was checked at all dose levels. Three samples were taken from the surface (Sa, Sb and Sc). Samples Sa and Sb were sent to the laboratory Défitraces for analysis. Sample Sc was stored frozen at Bayer CropScience center, Sophia-Antipolis, France.

CONCLUSIONS:

For phenobarbital the homogeneity and concentration results ranged between 97 and 99% of the nominal concentration (data sheets A1 et A2). All these results were therefore, within the in-house target range (data sheet B). The results of the control samples were below the Quantification Limit.

According to the available results, homogeneity and concentration of phenobarbital preparations in aqueous methylcellulose were acceptable for this study.

For tertiary butanol see the report from Défitraces.

4 - ANALYTICAL STUDY DESIGN DEVIATIONS

There was no deviation to the analytical study design.

5 - ARCHIVING

Analytical samples were kept in the specimen storeroom in the analytical laboratory while the study was in progress. They were discarded at study completion. All raw data, supporting documents, as well as the protocol, protocol amendments and the final report are maintained in the document archive room and the test substance samples retained in the area of the products storeroom defined for the archiving of test substances. All the above will be archived for at least 10 years in the designated areas at :

Bayer CropScience
355, rue Dostoïevski.
BP 153
06903 Sophia Antipolis Cedex
FRANCE

ANALYTICAL REPORT :	SA 08160	8 / 9

DATA SHEETS

A - ANALYTICAL STUDY SA 08160

Test substance:	Phenobarbital	Batch:	06100228
Substrate:	0.5% methylcellulose		

A1 – HOMOGENEITY

Study phase	Date of analysis	Sampling level	Concentration (g/l) nominal	Concentration (g/l) measured	% of nominal concentration
Formulation on Sep. 02, 08	Sep. 02, 08	H	8	7.87	98
		M	8	7.92	99
		B	8	7.77	97
			MEAN :	7.853	

COMMENTS: **Results within target ranges.**

Definitions and target ranges: data sheet B

A2 – CONCENTRATION

Study phase	Date of analysis	Concentration (g/l) Nominal	Concentration (g/l) Measured	% of nominal concentration
Formulation on Sep. 02, 08	Sep. 02, 08	Control	< QL	-
		8	7.853	98

COMMENTS: **Results within target ranges.**

QL = 0.1 g/l
Mean values obtained from the homogeneity check were taken as measured concentration.

Definitions and target ranges: data sheet B.

ANALYTICAL REPORT :	SA 08160	9/9

A3 - METHOD VALIDATION

Validation period		Concentration (g/l)		Recovery %
		Spike	Measured	
During study SA 08160	F1	0.1 8	0.0977 8.00	98 100

COMMENTS: **Results within target ranges.**

Definitions and target ranges: data sheet B.

B - DEFINITIONS AND TARGET RANGES

DEFINITIONS:

Quantification Limit (QL): lowest concentration of test substance in the substrate quantifiable with an acceptable accuracy.

Recovery %: (measured concentration / spike concentration) x 100

Nominal concentration %: (measured concentration / nominal concentration) x 100

ppm: part per million (mg of test substance /kg of diet)

TARGET RANGES:

Suspensions and solutions:

Concentration range	Recovery % for method validation	% of nominal concentration
0.01 to 250 g/l	90 to 110	90 to 110

DEFITRACES

QUANTIFICATION OF T-BUTYL ALCOHOL IN SPECIMENS USED IN A MECHANISTIC 14-DAY TOXICITY STUDY IN THE MOUSE

Study Sponsor
LyondellBasell Industries
Weena 737
Rotterdam, 3013AM
NETHERLANDS

Study Director
BLANCK Olivier

Report
No. 08-902017-003
of November 26, 2008

Test Facility Reference
Amendment to the Study Plan SA 08160

Author
RICAU Hélène

Test Site
DEFITRACES
ZA des Andrès
150, rue Pré-Magne
69126 BRINDAS
FRANCE

Test Facility
BAYER CROPSCIENCE
355 rue Dostoïevski - BP 153
06903 SOPHIA-ANTIPOLIS CEDEX
FRANCE

In compliance with the Good Laboratory Practice Standards
(Directive 2004/10/EC – French decree No. 2006-1523)

Document of 19 pages including 3 annexes.
The reproduction of this report is only permitted in its integral form.

STUDY SPONSOR: BAYER CROPSCIENCE **TEST ITEM:** t-BUTYL ALCOHOL

CONTENTS

CONTENTS 2
CONFIDENTIALITY STATEMENT 3
GLP COMPLIANCE STATEMENT 4
QUALITY ASSURANCE REPORT 5
SUMMARY 6
GENERAL INFORMATION 7
INFORMATION ON THE SPECIMENS 8
AMENDMENTS 9
DEVIATIONS 9
DATA RECORDING AND ARCHIVING 9
QUANTIFICATION OF T-BUTYL ALCOHOL IN THE SPECIMENS 10
1. Tests to be performed 10
2. Test objective 10
3. Analytical quantification of t-butyl alcohol 10
4. Results 12
5. Conclusion 13
ANNEX 1 DEFITRACES CERTIFICATE OF COMPLIANCE WITH THE GLP 14
ANNEX 2 REFERENCE ITEM ANALYTICAL CERTIFICATE 15
ANNEX 3-1 CHROMATO. TRACE OF THE REFERENCE ITEM 16
ANNEX 3-2 CHROMATO. TRACE OF THE BLANK SOLUTION (DRINKING WATER) ... 17
ANNEX 3-3 CHROMATO. TRACE OF THE t-BUTYL ALCOHOL SOLUTION AT 0.2% ... 18
ANNEX 3-4 CHROMATO. TRACE OF THE t-BUTYL ALCOHOL SOLUTION AT 2% 19

STUDY SPONSOR: BAYER CROPSCIENCE **TEST ITEM:** t-BUTYL ALCOHOL

CONFIDENTIALITY STATEMENT

The Sponsor may use the experimental data and integral reports arising as a result of the study (hereinafter the information) for his own evaluation, and disclose the information to the regulatory authorities, the Sponsor's licences, or consortium partners. In making such disclosures the Sponsor must refer to DEFITRACES by name or otherwise identify DEFITRACES. The Sponsor may also disclose to third parties complete copies of reports arising from the conduct of the study, provided that the report do not refer to DEFITRACES by name or otherwise identify DEFITRACES.

The Sponsor must not disclose to any third party correspondence between the parties and must not (except as provided above) refer to DEFITRACES by name or otherwise identify DEFITRACES. The Sponsor must not in any circumstances imply or state that any conclusion drawn by the Sponsor is approved by DEFITRACES or that DEFITRACES approves or endorses any product or compound of the Sponsor or any use thereof.

DEFITRACES must keep confidential and must not disclose to any third party without the prior written consent of the Sponsor any information related to any work carried out in connection with the study or any information acquired from the Sponsor unless in DEFITRACES opinion the health and well-being of a patient (or patients) or the public interest is prejudiced thereby. No disclosure must be made without DEFITRACES having first informed the Sponsor.

STUDY SPONSOR: BAYER CROPSCIENCE **TEST ITEM:** t-BUTYL ALCOHOL

GLP COMPLIANCE STATEMENT

The study which is the subject of this report was performed at the request of:

BAYER CROPSCIENCE

I, the undersigned, hereby declare that the study has been conducted under my responsibility, in conformity with the study plan (No. 08-902017-003) and in compliance with the Good Laboratory Practice Standards (Directive 2004/10/EC - French decree No. 2006-1523) and the Standard Operating Procedures in use at DEFITRACES.

All the observations and data recorded during this study are presented in this document. I certify that this report fully and accurately reflects the procedures used and the data generated.

Date: November 26, 2008

RICAU Hélène
Analytical Principal Investigator
DEFITRACES

Date: November 26, 2008

ANDING Claude
Test Site Management
DEFITRACES

STUDY SPONSOR: BAYER CROPSCIENCE **TEST ITEM:** t-BUTYL ALCOHOL

QUALITY ASSURANCE REPORT

This study was inspected by the Quality Assurance Unit of DEFITRACES on the dates indicated below.

Quality Assurance findings were reported to the Study Director and Company Management promptly on completion of each action, except for process-based inspections, which were reported to the appropriate Company Management only.

The following points have been inspected:

Study plan inspections: Standard Experimental Method and study specific pages.

Process-based inspections: Routine and repetitive procedures were inspected on representative studies, not necessarily on this study.

Experimental inspections: The experimental inspections were performed on representative studies, not necessarily on this study.

Report inspections: The draft report and study data were inspected before issuing the draft report to the Sponsor. The final report was also inspected.

The data presented in this report are considered to be an accurate account of the data generated and of the procedures used.

INSPECTIONS	DATES	DATES OF REPORTS TO MANAGEMENT AND STUDY DIRECTOR
Study plan	**September 26, 2008**	**September 26, 2008**
Experimental phase	**September 26, 2008** Preparation of the analytical solutions.	**September 26, 2008**
Draft report	**October 16, 2008**	**October 16, 2008**
Study report	**November 26, 2008**	**November 26, 2008**

Date: November 26 th, 2008

PORTE Pierre
Quality Assurance
DEFITRACES

STUDY SPONSOR: BAYER CROPSCIENCE **TEST ITEM:** t-BUTYL ALCOHOL

SUMMARY

QUANTIFICATION OF t-BUTYL ALCOHOL

The concentration of t-butyl alcohol in the 0.2% m/v solutions issued from the toxicity test is equal to 0.21% m/v.

The concentration of t-butyl alcohol in the 2% m/v solutions issued from the toxicity test is equal to 2.07% m/v.

No t-butyl alcohol was found in the two control solutions (drinking water) used for the toxicity test.

No degradation of t-butyl alcohol occurs in the specimens containing 0.2 or 2.0% m/v of the test item.

STUDY SPONSOR: BAYER CROPSCIENCE **TEST ITEM:** t-BUTYL ALCOHOL

GENERAL INFORMATION

Test item	**T-BUTYL ALCOOL**
Test performed	**Quantification of t-butyl alcohol in specimens used in a mechanistic 14-day toxicity study in the mouse**
Study Sponsor	**LyondellBasell Industries** Weena 737 Rotterdam, 3013AM NETHERLANDS
Test Facility	**BAYER CROPSCIENCE** 355 rue Dostoïevski - BP 153 06903 SOPHIA-ANTIPOLIS CEDEX FRANCE
Study Director Phone E-mail	BLANCK Olivier +33 (0)4 92 94 34 41 olivier.blanck@bayercropscience.com
Test Site	**DEFITRACES** Z.A. des "Andrés" 150 rue Pré-Magne 69126 BRINDAS FRANCE
Analytical Principal Investigator Phone E-mail	RICAU Hélène +33 (0)4 78 45 60 54 helene.ricau@defitraces.com
Test Site Quality Assurance	PORTE Pierre
Technical Staff	MOULIN Mathilde
Test Site Management Phone E-mail	ANDING Claude +33 (0)4 78 87 98 67 claude.anding@defitraces.com
Test Site Study plan	No. 08-902017-003 accepted on September 26, 2008

Study timetable	Start of the study	September 26, 2008
	Experimental starting date	September 26, 2008
	Experimental completion date	September 29, 2008
	Date of the draft report	October 03, 2008
	End of the study	November 26, 2008

STUDY SPONSOR: BAYER CROPSCIENCE **TEST ITEM:** t-BUTYL ALCOHOL

INFORMATION ON THE SPECIMENS

TEST SPECIMENS

The specimens issued from the toxicity study were reference as followed:

Ta 0 SA 08160	DEF08-0623
Tb 0 SA 08160	DEF08-0624
Sa 2 SA 08160	DEF08-0625
Sb 2 SA 08160	DEF08-0626
Sa 20 SA 08160	DEF08-0627
Sb 20 SA 08160	DEF08-0628
Quantity/specimen	About 20 mL
Date of reception	September 03, 2008
State at reception	Liquid
Storage before analysis	Congelator at < -15°C

The specimens will be stored in our Test Facility for at least two months after sending the final report of all DEFITRACES studies concerning these specimens, then it will be destroyed by DEFITRACES.

REFERENCE ITEM

Name	**t-butyl alcohol**
Chemical name IUPAC	2-Methyl-2-propanol
CAS Number	[75-65-0]
Batch	A0258685
Purity	997 g/kg
Supplier	Acros
Expiry date	July 29, 2010 (internal procedure)

STUDY SPONSOR: BAYER CROPSCIENCE **TEST ITEM:** t-BUTYL ALCOHOL

AMENDMENTS

Amendment No. 1: Pierre PORTE is the Quality Assurance Representative for this study and not Cinthia TECHER.

This amendment has no adverse effect on the results of the study.

DEVIATIONS

No incident, which could have affected the quality or the interpretation of the results obtained, was observed.

DATA RECORDING AND ARCHIVING

All observations were immediately recorded in a paginated laboratory notebook.

The original documents, including the final report and all raw data, are archived at DEFITRACES for 10 years after sending the final report of all DEFITRACES studies concerning the specimen.

STUDY SPONSOR: BAYER CROPSCIENCE **TEST ITEM:** t-BUTYL ALCOHOL

QUANTIFICATION OF T-BUTYL ALCOHOL IN SPECIMENS USED IN A MECHANISTIC 14-DAY TOXICITY STUDY IN THE MOUSE

1. Tests to be performed

Quantification of t-butyl alcohol in specimens used in a mechanistic 14-day toxicity study in the mouse.

2. Test objective

The objective is to analyze t-butyl alcohol in aqueous solutions

3. Analytical quantification of t-butyl alcohol

An analytical quantification of t-butyl alcohol was done in order to define the concentrations in the 0.2% m/v solutions, in the 2% m/v solutions and in the blank solutions.

3.1. Method validation

An analytical method validation of t-butyl alcohol at 0.2% m/v in an aqueous solution was done during the study 08-902017-001 by definition of the specificity, the linearity, the precision and the accuracy of the method.

3.2. Method principle

The t-butyl alcohol was analysed by gas chromatography using a flame ionisation detector (GC-FID).

The samplings issued from the 2% m/v t-butyl alcohol aqueous solution were diluted 10 fold with water before analysis in order to be in the same conditions as those defined during the analytical method validation.

3.3. Analytical method

Reagents

Acetone for analysis
Methanol for HPLC
All the glassware was rinsed with acetone for analysis and air dried before use.

Apparatus

Gas chromatograph	Varian 3800
Autosampler	Varian 8200
Ultrasonic tank	Transonic Type T425H
Magnetic stirrer	Heidolph 94360
Balance: Accuracy ± 0,1 mg	Mettler AE 100S
Usual laboratory apparatus	

STUDY SPONSOR: BAYER CROPSCIENCE **TEST ITEM:** t-BUTYL ALCOHOL

Safety instructions

The chemicals, solvents and equipment were used with caution. The safety rules defined within DEFITRACES were strictly followed.

Preparation of the test specimen solution (t-butyl alcohol as 0.2% m/v aqueous solution)

- A quantity of 0.5 g (to the nearest 0.1 mg) of the specimen was weighed into a 100-mL volumetric flask and the volume was made with methanol.

Note: the samplings issued from the 2% m/v solution were diluted 10 fold before weighing.

Preparation of the reference item solutions

- A quantity of 100 mg (to the nearest 0.1 mg) of the reference item was weighed into a 100-mL volumetric flask. The volume was made with a mixture of 99.5/0.5% v/v methanol/drinking water. The solution was diluted 100 times with the above mixture before analysis (REF03).
  An identical reference item solution (REF04) was prepared.

Instrumental analysis

The t-butyl alcohol was analyzed by gas chromatography using a flame ionization detector (GC-FID).

Chromatographic conditions CPG

Column	Type		Restek		Length *(m)*	30
	Internal diameter *(mm)*		0.53			
	Stationary phase		RTY-1301		Film thickness *(µm)*	3.0
Gas	Carrier gas	Helium	Quality	Premier	Flow rate *(mL/min)*	4.0
	Make-up	Nitrogen	Quality	U	Flow rate *(mL/min)*	20.0
Injector	S.P.I.					
	Temperature *(°C)*		220		Injection by Autosampler	
	Volume injected *(µL)*		2.5			
Detector	FID				Temperature *(°C)*	250
Gas	Air *(mL/mn)*		Quality	0	Flow rate *(mL/min)*	300
	Hydrogen *(mL/mn)*		Quality	U	Flow rate *(mL/min)*	30
Column	Initial temperature *(°C)*		30		Hold time *(min)*	2.0
	Rate *(°C/min)*		10.0			
	Temperature *(°C)*		35		Hold time *(min)*	7.0
	Rate *(°C/min)*		50			
	Final temperature *(°C)*		240		Hold time *(min)*	0

Retention times *(min)* About 9.6

Calibration

Several analysis of one of the reference item solutions were run until reproducible results were obtained for t-butyl alcohol.

Then the second reference item solution was analyzed to check reliability of the calibration solutions.

When the calibration reliability was obtained, the specimen solutions were analyzed amongst the reference item solution.

STUDY SPONSOR: BAYER CROPSCIENCE **TEST ITEM:** t-BUTYL ALCOHOL

Expression of the results

Response factor

$$F = (S \times P) / (A_R \times D_R)$$

Where S is the weight in g of the reference item taken for analysis
P is the purity of t-butyl alcohol in the reference item solution analyzed (P = 1 if purity = 100%, otherwise P<1)
A_R is the area of the t-butyl alcohol peak in the reference item
D_R is the dilution factor of the reference item = 10000

Mean response factor fm:

The mean response factors fm are equal to the mean of the response factors of the calibration solutions bracketing the specimen in the chromatographic analysis.

Active substance concentration in % m/v

$$\text{t-butyl alcohol } (\%) = (A_T \times fm \times 100 \times D_I \times d) / W$$

Where A_T is the area of the t-butyl alcohol peak in the specimen
fm is the mean response factor
D_I is the dilution factor of the specimen = 100
W is the weight in g of the specimen taken for analysis
d is the density (= 1)

4. Results

Drinking water (= blank solution)

DEFITRACES specimen No.	t-butyl alcohol concentration (% m/v)	t-butyl alcohol mean concentration (% m/v)	Final result (% m/v)
DEF08-0623 Ta 0 SA 08160	0 0	0	0
DEF08-0624 Tb 0 SA 08160	0 0	0	

pH between 8.12 and 8.52

Solutions at 0.2% m/v

DEFITRACES specimen No.	t-butyl alcohol concentration (% m/v)	t-butyl alcohol mean concentration (% m/v)	Final result (% m/v)	Deviation from declared value* (%)
DEF08-0625 Sa 2 SA 08160	0.21 0.21	0.21	0.21	+ 5.0
DEF08-0626 Sb 2 SA 08160	0.21 0.21	0.21		

*Declared value: 0.20% m/v
pH between 8.31 and 8.55

STUDY SPONSOR: BAYER CROPSCIENCE **TEST ITEM:** t-BUTYL ALCOHOL

Solutions at 2% m/v

DEFITRACES specimen No.	t-butyl alcohol concentration (% m/v)	t-butyl alcohol mean concentration (% m/v)	Final result (% m/v)	Deviation from declared value* (%)
DEF08-0627 Sa 20 SA 08160	2.11 2.04	2.08	2.07	+ 3.5
DEF08-0628 Sb 20 SA 08160	1.99 2.10	2.05		

*Declared value: 2.0% m/v
pH between 8.10 and 8.15

5. Conclusion

The concentration of t-butyl alcohol in the 0.2% m/v solutions issued from the toxicity test.is equal to 0.21% m/v.

The concentration of t-butyl alcohol in the 2% m/v solutions issued from the toxicity test. is equal to 2.07% m/v.

No t-butyl alcohol was found in the two control solutions (drinking water) used for the toxicity test.

No degradation of t-butyl alcohol occurs in the specimens containing 0.2 or 2.0% m/v of the test item

STUDY SPONSOR: BAYER CROPSCIENCE **TEST ITEM:** t-BUTYL ALCOHOL

ANNEX 1
DEFITRACES CERTIFICATE OF COMPLIANCE WITH THE GOOD LABORATORY PRACTICE
(duplicate)

Liberté • Égalité • Fraternité
RÉPUBLIQUE FRANÇAISE

GROUPE INTERMINISTERIEL DES PRODUITS CHIMIQUES

Paris, le 26 MAI 2008

Objet : Evaluation de la conformité aux Bonnes Pratiques de Laboratoires (BPL) selon les directives 2004/9/CE et 2004/10/CE du 11 février 2004.

Subject : Assessment of compliance with Good Laboratory Practices (GLP) under the EC directives 2004/9 and 2004/10 of 11 February 2004.

Consécutivement à votre engagement vis-à-vis du GIPC et du COFRAC et en application du décret n° 2006-1523 du 4 décembre 2006 concernant les bonnes pratiques de laboratoires et modifiant le décret n° 81-278 du 25 mars 1981 portant création d'un groupe interministériel des produits chimiques, je vous confirme que le GIPC, au vu des résultats du contrôle exercé par le Comité français d'accréditation (COFRAC) - Section Laboratoires a décidé pour votre installation du statut suivant :
Following your engagement vis-à-vis the GIPC and COFRAC and in application of the decree n° 2006-1523 of 4 December 2006 relating to the good laboratory practices and modifying the decree n° 81-278 of 25 March 1981 giving birth to an interministerial group of chemical products (GIPC), I confirm to you that the GIPC, given the results of the inspection realised by the French Committee of accreditation (COFRAC) – Laboratory Section has taken the following decision relating to your installation:

Respect des principes de BPL
Respect of the GLP principles
Domaines de reconnaissance :
1 - essais physico-chimiques
6 - études portant sur les résidus -

Areas of expertise :
1 = Physico-chemical testing
6 = Residue studies

Date d'inspection : 29 janvier 2008
Date of inspection : 29 january 2008

Inspection de contrôle périodique (i.p)
Periodic check inspection (i.p)

Date de décision du GIPC : 16 mai 2008
Date of GIPC decision: 16 may 2008

Date de prise d'effet : 29 janvier 2008
Date of implementation: 29 january 2008

Année de première conformité : 1993
Year of the first conformity: 1993

Durée de validité: 18 mois
Time of validity: 18 months

Le Président,

Jean-Pierre FALQUE-PIERROTIN

DEFITRACES
ZA des Andrés
150 Pré-Magne
69126 BRINDAS

Secrétariat général du GIPC - DGE- Simap - 12, rue Villiot - 75572 Paris cedex 12
Téléphone : 01 53 44 96 10 – Télécopie : 01 53 44 91 72

STUDY SPONSOR: BAYER CROPSCIENCE **TEST ITEM:** t-BUTYL ALCOHOL

ANNEX 2
REFERENCE ITEM ANALYTICAL CERTIFICATE
(duplicate)

ACROS COM

ACROS

Certificate of Analysis

Product 10771
tert-Butanol,99.5%,extra pure

General Product Data

Version	0
CAS No	75-65-0
Molecular weight	74.12
Molecular formula	C4 H10 O
Linear formula	(CH3)3COH
Flash point (°C)	11

Lot Specific Data A0258555

Appearance	clear colourless liquid after melting
Infrared spectrometry	authentic
Separat. techn. GC	99.7 %
Water	0.03 % (K.F.)
Refractive index	1.3870 (20°C, 589 nm)
Acid number	<0.01 mg KOH/g

Issued: 01-08-08
A. Vanvesta Quality Control Manager

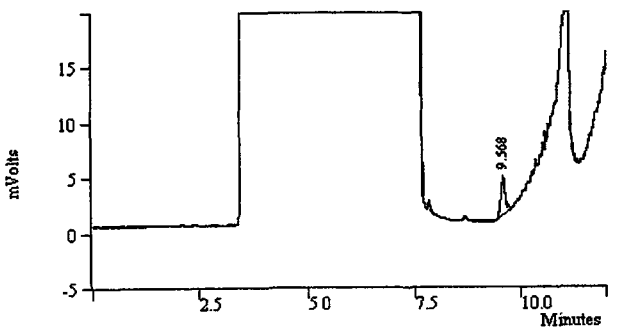
Acros Organics Geel West Zone 2, Janssen Pharmaceuticalaan 3a, B-2440 Geel, Belgium
Tel +32 14/57.52.11 - Fax +32 14/58.54.34 Internet: http://www.acros.com
1 Reagent Lane, Fair Lawn, NJ 07410,USA
Fax 201-796-1329

STUDY SPONSOR: BAYER CROPSCIENCE **TEST ITEM:** t-BUTYL ALCOHOL

ANNEX 3-1
CHROMATOGRAPHIC TRACE OF THE REFERENCE ITEM

Data File:	e:\2262.run		
Channel:	Front = FID RESULTS	Calculation Method:	c:\star\tert-butanol.m
		Sample ID:	REF04 dil100
Injection Date:	26/09/08 16:47:07	Run Mode:	Analysis
Injection Method:	c:\star\tert-butanol.mth		
		Calculation Type:	Percent
Calc Date:	29/09/08 10:02:33		

Sample Prep Info
Could not format the injection information for this run.



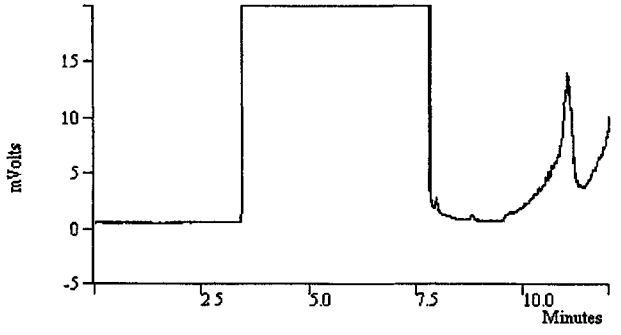
Peak Name	Ret. Time (min)	Width 1/2 (sec)	Peak Area (counts)
tert- butanol	9.568	6.7	25052
Totals			**25052**

STUDY SPONSOR: BAYER CROPSCIENCE **TEST ITEM:** t-BUTYL ALCOHOL

ANNEX 3-2
CHROMATOGRAPHIC TRACE OF THE BLANK SOLUTION (DRINKING WATER)

Data File:	e:\2253 run	Calculation Method:	c:\star\tert-butanol.m
Channel:	Front = FID RESULTS	Sample ID:	DEF08-0624
Injection Date:	26/09/08 13:39:06	Run Mode:	Analysis
Injection Method:	c:\star\tert-butanol.mth	Calculation Type:	Percent
Calc Date:	26/09/08 13:52:37		

Sample Prep Info
Could not format the injection information for this run.



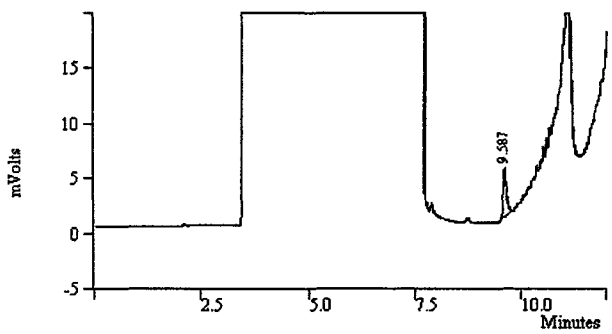
Peak Name	Ret. Time (min)	Width 1/2 (sec)	Peak Area (counts)
Totals			0

STUDY SPONSOR: BAYER CROPSCIENCE **TEST ITEM:** t-BUTYL ALCOHOL

ANNEX 3-3
CHROMATOGRAPHIC TRACE OF THE t-BUTYL ALCOHOL SOLUTION AT 0.2%

Data File:	e:\2263.run		
Channel:	Front = FID RESULTS	Calculation Method:	c:\star\tert-butanol.m
		Sample ID:	DEF08-0625
Injection Date:	26/09/08 17:07:57	Run Mode:	Analysis
Injection Method:	c:\star\tert-butanol.mth		
		Calculation Type:	Percent
Calc Date:	29/09/08 10:06:27		

Sample Prep Info
Could not format the injection information for this run.



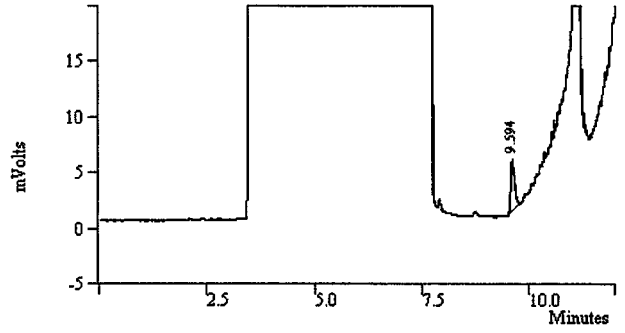
Peak Name	Ret. Time (min)	Width 1/2 (sec)	Peak Area (counts)
tert- butanol	9.587	5.5	25431
Totals			**25431**

STUDY SPONSOR: BAYER CROPSCIENCE **TEST ITEM**: t-BUTYL ALCOHOL

ANNEX 3-4
CHROMATOGRAPHIC TRACE OF THE t-BUTYL ALCOHOL SOLUTION AT 2% (AFTER DILUTION)

Data File:	e:\2275.run		
Channel:	Front = FID RESULTS	Calculation Method:	c:\star\tert-butanol.m
		Sample ID:	DEF08-0628
Injection Date.	26/09/08 21:18:21	Run Mode:	Analysis
Injection Method:	c:\star\tert-butanol mth		
		Calculation Type:	Percent
Calc Date:	29/09/08 10:21.08		

Sample Prep Info
Could not format the injection information for this run.



Peak Name	Ret. Time (min)	Width 1/2 (sec)	Peak Area (counts)
tert- butanol	9.594	5.7	26915
Totals			**26915**

APPENDIX Q - **STATISTICAL REPORT**

GROUP	DURATION OF EXPOSURE	TEST SUBSTANCE	DOSE LEVELS	NUMBER OF ANIMALS PER GROUP	ANIMAL IDENTITY	
FEMALES					SG1 (Sept. 04, 2008)	SG2 (Sept. 05, 2008)
1	3 Days	Phenobarbital	80 mg/kg/day	15	ST1F3039 to 3047	ST1F3048 to 3053
2	3 Days	Control	0	15	ST2F3054 to 3059	ST2F3060 to 3068
3	3 Days	TERTIARY BUTANOL	2 mg/mL	15	ST3F3069 to 3077	ST3F3078 to 3083
4	3 Days		20 mg/mL	15	ST4F3084 to 3089	ST4F3090 to 3098
FEMALES					SG1 (Sept. 03, 2008)	SG2 (Sept. 04, 2008)
1	14 Days	Phenobarbital	80 mg/kg/day	15	ST1F3099 to 3107	ST1F3108 to 3113
2	14 Days	Control	0	15	ST2F3114 to 3119	ST2F3120 to 3128
3	14 Days	TERTIARY BUTANOL	2 mg/mL	15	ST3F3129 to 3137	ST3F3138 to 3143
4	14 Days		20 mg/mL	15	ST4F3144 to 3149	ST4F3150 to 3158

Bayer CropScience

TERTIARY BUTANOL

MECHANISTIC 14-DAY TOXICITY STUDY IN THE MOUSE

(HEPATOTOXICITY AND THYROID HORMONE INVESTIGATIONS)

STATISTICAL ANALYSIS REPORT

AUTHOR:

E. Dufrayne 30/03/2009

C. PALLEN

Global Expert in Statistics & Epidemiology

STUDY: SA 08160

DATE: March 30, 2009

Page 1 of 10

STATISTICAL PROCEDURES

Variables analyzed

- Cytochrome P-450 specific isoenzyme activities
  - Total cytochrome P450 content
  - Enzymatic activities
- Quantity of 10 gene transcripts

➢ **Total cytochrome P450 content**

Comparison between the Phenobarbital treated group and the control group:

The F test was performed to compare the homogeneity of group variances.

When the F test was not significant ($p>0.05$), mean of the exposed group was compared to the mean of the control group using the t-test (2-sided). When the F test was significant ($p\leq0.05$), data were transformed using the log transformation. When the F test on log transformed data was not significant ($p>0.05$), mean of the exposed group was compared to the mean of the control group using the t-test (2-sided) on log transformed data. If the F test was significant ($p\leq0.05$), even after log transformation, mean of the exposed group was compared to the mean of the control group using the modified t-test (2-sided).

Comparison between the Tertiaryl butanol treated groups and the control group:

The Bartlett test was performed to compare the homogeneity of group variances.

When the Bartlett test was not significant ($p>0.05$), means were compared using the analysis of variance (ANOVA). If the ANOVA was not significant ($p>0.05$), the group means were considered to be homogeneous and no further analysis was performed. When the ANOVA was significant ($p\leq0.05$), means of the exposed groups were compared to the mean of the control group using the Dunnett test (2-sided). When the Bartlett test was significant ($p\leq0.05$), data were transformed using the log transformation. When the Bartlett test on log transformed data was not significant ($p>0.05$), means were compared using the ANOVA on log transformed data. When the ANOVA on log transformed data was not significant ($p>0.05$), the group means were considered to be homogeneous and no further analysis was performed. If the ANOVA on log transformed data was significant ($p\leq0.05$), means of the exposed groups were compared to the mean of the control group using the Dunnett test (2-sided) on log transformed data. If the Bartlett test was significant ($p\leq0.05$), even after log transformation, group means were compared using the non parametric Kruskal-Wallis test. If the Kruskal-Wallis test was not significant ($p>0.05$), the group means were considered to be homogeneous and no further analysis was performed. If the Kruskal-Wallis test was significant ($p\leq0.05$), mean of each exposed group was compared to the mean of the control group using the exact Mann-Whitney test (2-sided).

➢ **Enzymatic activities**

Comparison between the Phenobarbital treated group and the control group:

For each substrate of enzymatic activity, group means will be compared using the exact non parametric Mann-Whitney test (2-sided).

Comparison between the Tertiaryl butanol treated groups and the control group:

For each substrate of enzymatic activity, means were compared using the non parametric Kruskal-Wallis test. If the Kruskal-Wallis test was not significant ($p>0.05$), the group means were considered to be homogeneous and no further analysis was performed. When the Kruskal-Wallis test was significant ($p\leq0.05$), mean of each exposed group was compared to the mean of the control group using the exact Mann-Whitney test (2-sided).

- **Quantity of gene transcripts**

Because of a lack of normalization and a high variability between calculated values of gene transcript quantities, non-parametric procedures were selected.

Comparison between the Phenobarbital treated group and the control group:

Group means will be compared using the exact non parametric Mann-Whitney test (2-sided).

Comparison between the Tertiaryl butanol treated groups and the control group:

Means were compared using the non parametric Kruskal-Wallis test. If the Kruskal-Wallis test was not significant ($p>0.05$), the group means were considered to be homogeneous and no further analysis was performed. When the Kruskal-Wallis test was significant ($p\leq0.05$), mean of each exposed group was compared to the mean of the control group using the exact Mann-Whitney test (2-sided).

Group means were compared at the 5% and 1% levels of significance.
Statistical tests were conducted using SAS programs (Version 8.2).

STATISTICAL REFERENCES

Bartlett test, in SOKAL R.R. and ROHLF F.J. (1981): Biometry, W.H. Freeman, New York, pp. 403-407.

DUNNETT C.W. (1955): A multiple comparison procedure for comparing several treatments with a control, *J. Amer. Statist. Ass.*, 50, pp. 1096-1121.

KRUSKAL W.H. and WALLIS W.A. (1952): Use of ranks in one criterion variance analysis, *J. Amer. Statist. Ass.*, 47, pp. 583-621.

MANN H.B. and WHITNEY D.R. (1947): On a test of whether one of two random variables is stochastically larger than the other, *Ann. Math. Statist.*, 18, pp. 50-60.

SAS Software Release 8.2, SAS Institute Inc., Cary, NC, USA.

RESULTS

PART A – CYTOCHROME P-450 SPECIFIC ISOENZYME ACTIVITIES

1. **COMPARISON BETWEEN THE TERTIARY BUTANOL TREATED GROUPS AND THE CONTROL GROUP**

1.1 3-day of treatment

		Control	TERTIARY BUTANOL 2 mg/ml	TERTIARY BUTANOL 20 mg/ml
P-450 content (nmol/mg Prot)	N	5	5	3
	Mean	0.90	1.02 NS	1.03 NS
	SD	0.09	0.11	0.05

NS Not Significant
* Statistically different from the control group ($p \leq 0.05$)
** Statistically different from the control group ($p \leq 0.01$)

		Control	TERTIARY BUTANOL 2 mg/ml	TERTIARY BUTANOL 20 mg/ml
EROD (pmol/min/mg Prot)	N	5	5	3
	Mean	66.16	66.38 NS	64.41 NS
	SD	6.90	6.49	2.66
BROD (pmol/min/mg Prot)	N	5	5	3
	Mean	15.15	16.29 NS	23.41 NS
	SD	5.38	4.12	13.81
PROD (pmol/min/mg Prot)	N	5	5	3
	Mean	8.54	8.16 NS	8.14 NS
	SD	0.46	0.78	1.69

NS Not Significant
* Statistically different from the control group ($p \leq 0.05$)
** Statistically different from the control group ($p \leq 0.01$)

1.2 14-day of treatment

		Control	TERTIARY BUTANOL 2 mg/ml	TERTIARY BUTANOL 20 mg/ml
P-450 content (nmol/mg Prot)	N	5	5	5
	Mean	0.96	1.14 NS	1.50 **
	SD	0.04	0.22	0.33

NS Not Significant
* Statistically different from the control group ($p \leq 0.05$)
** Statistically different from the control group ($p \leq 0.01$)

		Control	TERTIARY BUTANOL 2 mg/ml	TERTIARY BUTANOL 20 mg/ml
EROD (pmol/min/mg Prot)	N	5	5	5
	Mean	70.15	77.18 NS	73.63 NS
	SD	4.92	9.75	8.81
BROD (pmol/min/mg Prot)	N	5	5	5
	Mean	18.73	31.01 **	230.17 **
	SD	1.60	8.82	135.26
PROD (pmol/min/mg Prot)	N	5	5	5
	Mean	8.94	9.84 NS	18.69 **
	SD	1.65	1.55	5.30

NS Not Significant
* Statistically different from the control group ($p \leq 0.05$)
** Statistically different from the control group ($p \leq 0.01$)

2. COMPARISON BETWEEN THE PHENOBARBITAL TREATED GROUP AND THE CONTROL GROUP

2.1 3-day of treatment

		Control	PHENOBARBITAL 80 mg/kg/day
P-450 content (nmol/mg Prot)	N	5	4
	Mean	0.90	2.07 **
	SD	0.09	0.09

NS Not Significant
* Statistically different from the control group ($p \leq 0.05$)
** Statistically different from the control group ($p \leq 0.01$)

		Control	PHENOBARBITAL 80 mg/kg/day
EROD (pmol/min/mg Prot)	N	5	4
	Mean	66.16	82.44 *
	SD	6.90	3.90
BROD (pmol/min/mg Prot)	N	5	4
	Mean	15.15	1071.96 *
	SD	5.38	84.28
PROD (pmol/min/mg Prot)	N	5	4
	Mean	8.54	66.46 *
	SD	0.46	10.00

NS Not Significant
* Statistically different from the control group ($p \leq 0.05$)
** Statistically different from the control group ($p \leq 0.01$)

2.2 14-day of treatment

		Control	PHENOBARBITAL 80 mg/kg/day
P-450 content (nmol/mg Prot)	N	5	5
	Mean	0.96	2.23 **
	SD	0.04	0.13

NS Not Significant
* Statistically different from the control group ($p \leq 0.05$)
** Statistically different from the control group ($p \leq 0.01$)

		Control	PHENOBARBITAL 80 mg/kg/day
EROD (pmol/min/mg Prot)	N	5	5
	Mean	70.15	102.34 **
	SD	4.92	15.50
BROD (pmol/min/mg Prot)	N	5	5
	Mean	18.73	1343.83 **
	SD	1.60	193.14
PROD (pmol/min/mg Prot)	N	5	5
	Mean	8.94	72.37 **
	SD	1.65	19.99

NS Not Significant
* Statistically different from the control group ($p \leq 0.05$)
** Statistically different from the control group ($p \leq 0.01$)

PART B – QUANTITY OF GENE TRANSCRIPTS

1 COMPARISON BETWEEN THE TERTIARY BUTANOL TREATED GROUPS AND THE CONTROL GROUP

1.1 3-day of treatment

Gene transcripts	Control	TERTIARY BUTANOL 2 mg/ml	TERTIARY BUTANOL 20 mg/ml
Cyp1a1	10 0.948 0.156	10 0.980 NS 0.345	10 0.906 NS 0.212
Cyp2b9	10 1.451 0.325	10 1.448 NS 0.252	10 1.428 NS 0.293
Cyp2b10	10 0.915 0.440	10 0.956 NS 0.425	10 1.094 NS 0.295
Cyp3a11	10 0.867 0.209	10 0.819 NS 0.277	10 0.922 NS 0.226
Sult1a1	10 1.002 0.140	10 1.069 NS 0.115	10 0.947 NS 0.129
Sult2a2	10 1.709 1.108	10 2.742 NS 1.185	10 1.793 NS 1.239
Sultn	10 0.922 0.131	10 0.930 NS 0.178	10 0.832 NS 0.128
Ugt1a1	10 1.116 0.146	10 1.218 NS 0.092	10 1.091 NS 0.117
Ugt2b1	10 0.682 0.143	10 0.657 NS 0.088	10 0.623 NS 0.112
Ugt2b5	10 0.799 0.132	10 0.790 NS 0.092	10 0.763 NS 0.119

NS : Not statistically significant
* : Statistically different from the control group ($p \leq 0.05$)
** : Statistically different from the control group ($p \leq 0.01$)

1.2 14-day of treatment

Gene transcripts	Control	TERTIARY BUTANOL 2 mg/ml	TERTIARY BUTANOL 20 mg/ml
Cyp1a1	10 0.642 0.150	10 0.726 NS 0.126	10 0.615 NS 0.205
Cyp2b9	10 0.984 0.098	10 1.006 NS 0.128	10 1.193 ** 0.155
Cyp2b10	10 0.745 0.242	10 1.254 ** 0.320	10 16.280 ** 18.501
Cyp3a11	10 0.737 0.205	10 0.745 NS 0.140	10 0.842 NS 0.243
Sult1a1	10 0.956 0.135	10 1.147 * 0.172	10 1.221 ** 0.207
Sult2a2	10 0.843 0.362	10 1.370 NS 1.293	10 1.720 NS 1.007
Sultn	10 0.858 0.168	10 0.862 NS 0.150	10 0.931 NS 0.219
Ugt1a1	10 0.782 0.117	10 0.790 NS 0.083	10 0.843 NS 0.088
Ugt2b1	10 0.912 0.157	10 0.879 NS 0.169	10 0.821 NS 0.172
Ugt2b5	10 0.745 0.174	10 0.662 NS 0.105	10 0.667 NS 0.099

NS : Not statistically significant
* : Statistically different from the control group ($p \leq 0.05$)
** : Statistically different from the control group ($p \leq 0.01$)

2 COMPARISON BETWEEN THE PHENOBARBITAL TREATED GROUP AND THE CONTROL GROUP

2.1 3-day of treatment

Gene transcripts	Control	PHENOBARBITAL 80 mg/kg/day
Cyp1a1	10 0.948 0.156	10 0.599 ** 0.144
Cyp2b9	10 1.451 0.325	10 1.485 NS 0.139
Cyp2b10	10 0.915 0.440	10 19.331 ** 5.104
Cyp3a11	10 0.867 0.209	10 2.489 ** 0.453
Sult1a1	10 1.002 0.140	10 1.460 ** 0.247
Sult2a2	10 1.709 1.108	10 6.745 ** 2.680
Sultn	10 0.922 0.131	10 1.554 ** 0.269
Ugt1a1	10 1.116 0.146	10 2.349 ** 0.343
Ugt2b1	10 0.682 0.143	10 1.249 ** 0.191
Ugt2b5	10 0.799 0.132	10 0.921 NS 0.145

NS : Not statistically significant
* : Statistically different from the control group ($p \leq 0.05$)
** : Statistically different from the control group ($p \leq 0.01$)

2.2 14-day of treatment

Gene transcripts	Control	PHENOBARBITAL 80 mg/kg/day
Cyp1a1	10 0.642 0.150	10 0.482 * 0.119
Cyp2b9	10 0.984 0.098	10 1.114 NS 0.180
Cyp2b10	10 0.745 0.242	10 24.593 ** 9.483
Cyp3a11	10 0.737 0.205	10 1.571 ** 0.265
Sult1a1	10 0.956 0.135	10 1.512 ** 0.170
Sult2a2	10 0.843 0.362	10 7.799 ** 2.810
Sultn	10 0.858 0.168	10 1.682 ** 0.353
Ugt1a1	10 0.782 0.117	10 1.429 ** 0.184
Ugt2b1	10 0.912 0.157	10 1.175 ** 0.183
Ugt2b5	10 0.745 0.174	10 0.872 NS 0.177

NS : Not statistically significant
* : Statistically different from the control group ($p \leq 0.05$)
** : Statistically different from the control group ($p \leq 0.01$)

Data Storage

All supporting documents are maintained at the archives of:

Bayer CropScience
355, rue Dostoïevski
BP 153
06903 Sophia Antipolis Cedex
France

ATTACHMENTS

ATTACHMENT 1 - **PROTOCOL AND AMENDMENTS**

TERTIARY BUTANOL:
MECHANISTIC 14-DAY TOXICITY STUDY IN THE MOUSE
(HEPATOTOXICITY AND THYROID HORMONE INVESTIGATIONS)

TESTING FACILITY:
Bayer CropScience
355, rue Dostoïevski
BP 153
06903 Sophia Antipolis Cedex
France

SPONSOR:
LyondellBasell Industries
Weena 737
Rotterdam, 3013AM
Netherlands

1 GENERAL

1.1 PURPOSE OF STUDY

The objective of this study is to investigate the mode of action of tertiary butanol with respect to the thyroid tumors that were observed in the mouse oncogenicity study (clear effects in the females, equivocal evidence in the males). The potential effects of tertiary butanol on the thyroid and liver following continuous drinking water administration for 3 or 14 days will therefore be determined.

This study is not designed to meet regulatory requirements.

1.2 GOOD LABORATORY PRACTICE COMPLIANCE

This study will not be subjected to specific Quality Assurance inspections. However, standardized, routine operating methods similar to those used on this type of study are periodically inspected for GLP compliance.

2 STUDY PERSONNEL

2.1 STUDY DIRECTOR:

Date: August 25, 2008 O.BLANCK

2.2 SPONSOR REPRESENTATIVE:

Date: August 26, 2008 J.FOWLES

2.3 OTHER STUDY PERSONNEL

Responsibility		Name
Replacement Study Director	:	H.TINWELL
Responsible Technician	:	S. COLOMBEL
Study Pathologist	:	F. SCHORSCH
Senior Chemist	:	L. AMIR TAHMASSEB
Hepatotoxicity Investigation	:	M. TOTIS
Hormone Analysis	:	O. BLANCK
Principal Investigator for Hormone measurement #	:	B. KECK
Statistician	:	C. PALLEN
Principal Investigator for concentration measurement of Tertiary Butanol*	:	H. RICAU

#: Bernadette Keck

Ecole Nationale Vétérinaire de Lyon – Laboratoire d'endocrinologie clinique et toxicologique – 1, Avenue Bourgelat, BP83 – 69280 Marcy l'Etoile, FRANCE

Email : b.keck@vet-lyon.fr

Quality Assurance Manager of the Test Site: Thierry Buronfosse

*: Hélène Ricau

Defitraces, Z.A des "Andrés", 150 rue Pré-Magne, 69126 Brindas, FRANCE

Email : helene.ricau@defitraces.com

Quality Assurance Manager of the Test Site: Pierre Porte

Other study personnel will be identified as appropriate in the study file.

3 PROPOSED DATES

		3-Day Exposure	14-Day Exposure
Arrival of animals	:	August 27, 2008	
Experimental starting date	:	August 27, 2008	
Randomization	:	September 02, 2008	
Start of treatment	:	September 04-05, 2008	September 03-04, 2008
Blood sampling	:	September 08-09, 2008	September 18-19, 2008
First final sacrifice date	:	September 08, 2008	September 18, 2008
Necropsy	:	September 08-09, 2008	September 18-19, 2008
Experimental completion date	:	November (estimated)	

4 OVERVIEW OF STUDY DESIGN

Animals will be fed control diet and will receive control or test water for at least 3 or 14 days.

Clinical observations will be performed daily, body weight, food and water intake will be measured at day 4 for the 3-day exposure groups and at day 8 and 15 for the 14-day exposure groups. A detailed physical examination will be performed once during the acclimatization phase and at day 3 for groups 1 to 4 and at day 8 and 14 for groups 5 to 8. Blood samples will be taken before necropsy for thyroid and pituitary gland hormone analyses (T3, T4 and TSH). All animals will be subjected to necropsy, selected organs weighed and the liver and the thyroid gland will be fixed and examined microscopically. In addition, at the end of each treatment period, hepatic cytochrome P-450 isoenzymes and UDPGT activities will be assessed.

5 TEST SYSTEM

5.1 SPECIES SPECIFICATIONS

5.1.1 Species and strain

Mouse

B6C3F1

Harlan Laboratories (Gannat, France).

One hundred and thirty female mice will be ordered. They will be around 7 to 10 weeks of age at the start of exposure to the test substance.

They will be acclimatized to laboratory conditions for at least 7days.

5.1.2 Reason for selection of species

The female mouse has been chosen because the objective of this study is to provide additional information in relation to thyroid pathology findings observed in the oncogenicity study in this species (NTP, 1998).

5.1.3 Acclimatization phase and randomization

Animals will be checked twice daily for moribundity and mortality except on weekends and public holidays when they will be checked once daily. All animals will be weighed at least weekly, and subjected to a detailed physical examination once during the acclimatization phase.

The acceptable body weight range will be ± 20% of the mean body weight on the day of randomization.

Any animal deemed unsuitable for the study based on weight or clinical signs will not be used in this study.

Remaining animals will be allocated to dosage groups using a computerized randomization procedure that ensures a similar body weight distribution among groups.

5.1.4 Identification

At the time of randomization each animal will be identified by a stainless steel ear tag bearing a unique animal number.

5.2 DIET INFORMATION

5.2.1 Food

Certified rodent powdered and irradiated diet A04CP1-10 from S.A.F.E. (Scientific Animal Food and Engineering, Augy, France) will be available *ad libitum.*

Food will be stored in an identified room controlled for temperature and humidity. Diet will be used only until date of expiry.

5.2.2 Water

Filtered and softened tap water from the municipal water supply will be provided *ad libitum* from individual bottles. Filters servicing the watering system are changed regularly and sterilization of the system is periodically performed.

5.2.3 Analyses

Analytical data will be provided by the manufacturer for each batch of diet including the particle size and concentration of nutritional components, selected heavy metals, pesticides, mycotoxins, microorganisms and nitroso compounds. Batches of diet will only be released for use after confirmation that they meet specification.

Certificates of water analysis will be provided by the "Laboratoire de l'Environnement Nice Côte d'Azur" (France) and "Institut Scientifique d'Hygiène et d'Analyse" (France).

5.2.4 Records

Records of certificates of food and water analyses will be retained in the archives.

5.3 ENVIRONMENTAL CONDITIONS

5.3.1 Room

Animal room number: L8

The animal room is within a barrier maintained unit with restricted entry.

5.3.2 Housing

Animals will be housed individually in suspended, stainless steel, wire mesh cages. The cage of each animal will be identified by a card bearing a unique identification number.

5.3.3 General environment

Temperature, humidity and ventilation:
Laboratory conditions will be controlled to ideally achieve a temperature of 20°C - 24°C and a relative humidity of 40% - 70% with a target of 10 to 15 air changes per hour.

Lighting:
12-hour light/dark cycles are provided by automatically controlled fluorescent tube lighting (7 am – 7 pm).

Monitoring:
The temperature, humidity and lighting in the animal room are constantly monitored by an automatic system. The ventilation system in the animal room is maintained to ensure adequate ventilation, with the performance of the system regularly checked. Records of all deviations from specifications will be placed in the study file.

6 TEST SUBSTANCE

6.1 TEST SUBSTANCE CHARACTERISTICS

6.1.1 Identification

Test substance	:	Tertiary Butanol
Test substance synonym	:	Tertiary Butyl Alcohol
Batch number	:	HL80417001
Appearance	:	Clear, colorless liquid
Purity	:	99.58% (weight %)
Certified through	:	06/12/2009

Positive control	:	Phenobarbital
Batch number	:	06100228 (*)
Appearance	:	White powder
Purity	:	99.6%
Certified through	:	November 2010

(*) on the vial the batch number is noted as 06100228/B, which correspond to the container used by the supplier.

Full details of the test substance description including its physical appearance will be included in the final report.

6.1.2 Activity

Tertiary Butanol: A non-metabolized alcohol supplied by the Sponsor Representative.

Phenobarbital: Positive control known to be a thyroid toxicant in rodents via an indirect mechanism based on liver enzyme induction.

6.1.3 Storage

The test substance will be stored in an air-tight, light-resistant container at room temperature or according to the conditions described in the certificate of analysis when available.

6.1.4 Safety handling and requirements

Information on the appropriate safety precautions when handling the test substance will be given by the Sponsor Representative.

In the absence of information on the potential toxic effects of the test substance, safety precautions will be applied according to the relevant standard operating procedures.

6.1.5 Analyses

Identity, purity and stability of the test substance will be provided by the Sponsor Representative.

For Phenobarbital, identity, purity and stability will be provided by the supplier (Cooper, Melun, France)

6.2 TEST SUBSTANCE FORMULATION

Concerning the tertiary butanol, the analyses will be performed at the laboratory Défitraces, Z.A des 'Andrés', 10 rue Pré-Magne, 69126 Brindas, France.

Concerning the phenobarbital, the analyses will be performed at Bayer CropScience SA, 355 rue Dostoïevski, BP 153, 06903 Sophia Antipolis cedex, France.

6.2.1 Preparation

- Test substance will be incorporated into the drinking water to provide the required concentrations. The method of preparation will be documented in the study file.

  There will be one formulation for each concentration for the study.
- Phenobarbital will be suspended (w/v) in 0.5% aqueous solution of methylcellulose. The method of preparation will be documented in the study file. There will be one formulation for the study.

6.2.2 Storage

- Each test formulation will be stored at room temperature or at approximately +4°C depending of the stability study results (Défitraces) and issued to the animal unit in polycarbonate bottles. The unused residue will be discarded at the end of each administration period.
- The Phenobarbital suspension will be stored in air-tight bottles at approximately +4°C when not in use. The suspension will be mixed continuously before and during dosing with an electromagnetic stirrer. The unused residue will be discarded at the end of the administration period.

6.2.3 Analyses

Homogeneity:

- Homogeneity of phenobarbital in 0.5% aqueous solution of methylcellulose will be verified on the formulation to demonstrate adequate formulation procedures.

Concentrations:

- Concentration of test substance in drinking water will be verified on the formulation at all concentrations.
- The concentration of the formulation of Phenobarbital will be verified at the time of preparation.

Stability:

- The stability of the test substance in the drinking water will be determined in parallel to the course of the study at concentrations of 2 and 20g/l for a time period which covers the period of storage and usage for the current study.
- The stability of Phenobarbital at 8 g/L has been demonstrated in a previous study (SA 03310). At this concentration, the suspension was found to be stable over a 29-day period after storage at approximately +4°C and mixing at room temperature before and during the time of administration.

A report from Défitraces (for Tertiary Butanol) and from Bayer CropScience (for Phenobarbital) will be included as an appendix to the final report consisting of:

-characterization of test substance

-analyses of achieved formulation concentration

-demonstration of formulation homogeneity

-details of method of drinking water analysis

7 DOSAGES AND TREATMENT GROUPS

7.1 CHOICE OF DOSES

The dose levels were set after evaluation of the results of a chronic toxicity study with this substance showing significant thyroid pathology and thyroid tumours in female B6C3F1 mice, at a drinking water concentration of 20 mg/ml (20000 ppm) (NTP, 1998). In that study, a NOAEL of 5 mg/ml was established.

7.2 CHOICE OF ROUTE

The oral route was selected as this study attempts to recreate the high dose exposure conditions in the chronic NTP study, and since it is a possible route of human exposure.

7.3 CONDITIONS OF ADMINISTRATION

Control animals will receive untreated drinking water. All other groups will receive the appropriate concentrations at a constant level in the drinking water. An additional group will receive phenobarbital (suspension w/v in 0.5% aqueous solution of methylcellulose) by oral gavage once per day (10ml/kg) at 80mg/kg/day.

Diet will be available *ad libitum* throughout the study.

7.4 DOSES

GROUP	DURATION OF EXPOSURE	TEST SUBSTANCE	DOSE LEVELS	NUMBER OF ANIMALS PER GROUP	ANIMAL IDENTITY	
FEMALES					SG1 (Sept. 04, 2008)	SG2 (Sept. 05, 2008)
1	3 Days	Phenobarbital	80 mg/kg/day	15	ST1F3039 to 3047	ST1F3048 to 3053
2	3 Days	Control	0	15	ST2F3054 to 3059	ST2F3060 to 3068
3	3 Days	TERTIARY BUTANOL	2 mg/mL	15	ST3F3069 to 3077	ST3F3078 to 3083
4	3 Days		20 mg/mL	15	ST4F3084 to 3089	ST4F3090 to 3098
FEMALES					SG1 (Sept. 03, 2008)	SG2 (Sept. 04, 2008)
5	14 Days	Phenobarbital	80 mg/kg/day	15	ST5F3099 to 3107	ST5F3108 to 3113
6	14 Days	Control	0	15	ST6F3114 to 3119	ST6F3120 to 3128
7	14 Days	TERTIARY BUTANOL	2 mg/mL	15	ST7F3129 to 3137	ST7F3138 to 3143
8	14 Days		20 mg/mL	15	ST8F3144 to 3149	ST8F3150 to 3158

SG: Sub Group

7.5 ANIMAL WELFARE

During the study the care and use of animals will be conducted in accordance with the regulations of the Guide for the Care and Use of Laboratory Animals (Public Health Service, National Institute of Health, NIH publication N°86-23, revised 1985) and "Le Guide du Journal Officiel des Communautés Européennes L358, 18 Décembre 1986, n°86/609/CEE du 24 Novembre 1986".

8 LABORATORY DETERMINATIONS AND SCHEDULES

All animal data (except cytochrome P-450 determinations and the potential UDPGT genomic data) will be recorded using a dedicated computer system (Path/Tox System version 4.2.2, protocol number RP-0882 for the groups 1 to 4 and RP-0885 for the groups 5 to 8). The study number on the tables generated by Path/Tox System will be SA 08160 for the data referring to the protocol number RP-0882 and SA-08160 for the data referring to the protocol number RP-0885.

8.1 CLINICAL EXAMINATION

8.1.1 Clinical signs and mortality

Animals will be observed for clinical signs at least once each day starting on Day 1 and every day throughout the study. The nature, onset, severity, reversibility and duration of clinical signs will be recorded.

Animals will be checked twice daily for moribundity and mortality throughout the study except on weekends and public holidays when they will be checked once daily.

Any animal suffering from severe distress, in a moribund condition or considered unlikely to survive will be sent for early necropsy.

8.1.2 Physical examination

Detailed physical examination will be performed on Day 1 (all groups), on Day 3 (groups 1 to 4), and on Days 8 and 14 (groups 5 to 8).

8.1.3 Body weight

Body weights will be measured on Day 1 (all groups), on Day 4 (groups 1 to 4), and on Days 8 and 15 (groups 5 to 8).

8.1.4 Food consumption

Full feeder weights will be measured on Day 1 (all groups) and on Day 8 (groups 5 to 8).

Empty feeder weights will be measured on Day 4 (groups 1 to 4) and on Days 8 and 15 (groups 5 to 8).

The weight of food supplied to each animal and that remaining at the end of the food consumption period will be recorded for each interval throughout the treatment period. From these records the mean daily consumption will be calculated for each mouse. Food spillage will also be graded visually and noted.

8.1.5 Water consumption

Drinking water bottles containing the test substance will be weighed on the first (for all animals) and eighth (for the animals treated for 14 days) day of Tertiary Butanol administration. Empty water bottles will be weighed on the day of scheduled sacrifices (day 4 and day 15, all corresponding animals) and on the eighth (for the animals treated for 14 days) day of Tertiary Butanol administration.

The weight of water supplied to each animal and that remaining at the end of the water consumption period will be recorded for each interval throughout the treatment period. From these records the mean daily water consumption will be calculated for each mouse. Water spillage/leak will also be graded visually and noted.

8.2 CLINICAL PATHOLOGY

8.2.1 Blood collection

A blood sample will be collected from the abdominal aorta of each surviving animal, on the day of necropsy. Prior to blood sampling animals will be anesthetized with Isoflurane (Baxter, Maurepas, France). Blood will be placed into tubes containing lithium heparin and centrifuge. The resulting plasma samples will be stored frozen at approximately -80°C before shipment in dry ice to the subcontracted laboratory for hormone measurement.

8.2.2 Hormone investigation

8.2.2.1 Hormone measurement

Hormone measurement will be subcontracted at "Laboratoire d'endocrinologie clinique et toxicologique – 1, Avenue Bourgelat, BP83 – 69280 Marcy l'Etoile », under the supervision of the Principal Investigator B. Keck.

TSH, T3 and T4 levels will be measured on each plasma sample by radioimmunoassay. Specific radioimmunoassay kits will be supplied by Amersham (Courtabeuf, France) for TSH and by Diasorin (Antony, France) for T3 and T4.

8.2.2.2 Hormone analysis

The raw data obtained from the Principal Investigator will be transferred and processed in the Testing Facility using Path/Tox System V4.2.2. (Module Enhanced Statistics)

8.3 POST MORTEM EXAMINATION

8.3.1 Necropsy

8.3.1.1 Necropsy procedures

A complete necropsy will be performed on all animals. The necropsy will include the macroscopic examination of the external surfaces, all orifices and all major body cavities and organs. Significant macroscopic findings will be recorded, but not sampled except upon the decision of the Pathologist. Necropsy will be performed at precise time interval in the morning.

Animals found dead:

Any animal found dead during the study will be necropsied as soon as possible but within 24 hours of the time of discovery.

Scheduled sacrifice and moribund animals:

Terminal body weight will be recorded. Animals will be deeply anesthetized by inhalation of Isoflurane, then exsanguinated before necropsy. All animals will not be diet fasted prior to scheduled sacrifice.

8.3.1.2 *Organs to weigh*

- Brain
- Liver

Organs will be weighed fresh at scheduled sacrifice only.

8.3.1.3 *Organs to collect*

- liver
- Thyroid gland (with parathyroid gland)

In each group, a piece of median and left lobe of the liver of 5 animals selected randomly will be collected and preserved in 10% neutral buffered formalin fixative for microscopic examination. The remaining portions as well as the entire liver of the other 10 animals will be used for microsome preparation. Moreover, a small piece of median lobe liver of each animal will be collected and stored frozen below -70°C for possible Quantitative Polymerase Chain Reaction (Q-PCR) analyses.

The thyroid gland of all animals will be preserved in 10% neutral buffered formalin fixative for microscopic examination.

8.3.1.4 *Histopathology*

Organs for histopathology examination:

- Liver
- Thyroid gland

The tissues preserved in formalin will be embedded in paraffin wax after trimming and histological sections will be prepared and stained with hematoxylin and eosin. All slides prepared in paragraph 8.3.1.3 will be examined.

8.4 SPECIAL TESTING

8.4.1 *Cytochrome P-450 specific isoenzyme activities*

At scheduled necropsy, the remaining portions of the liver also used for microscopic examination of one animal and the entire liver of two others will be pooled by group and homogenized for microsomal preparations in order to determine cytochrome P-450 and UDPGT specific isoenzyme profiles.

8.4.1.1 *Total cytochrome P-450 content*

Total cytochrome P-450 content in microsomal preparation will be determined by spectrophotometry using a reduced CO differential spectrum.

8.4.1.2 *Enzymatic activities*

Specific cytochrome P-450 enzymatic activities will be quantified by spectrofluorimetry using the following substrates:

-ethoxyresorufin

-pentoxyresorufin

-benzoxyresorufin

and by HPLC with fluorimetric detection following derivatization by 4-(bromomethyl)-7methoxycoumarin of 12-hydroxy-lauric acid (lauric acid used as substrate).

8.4.1.3 *UDPGT enzymatic activities*

The glucuronidation will be assayed using an enzymatic assay and/or a genomic approach (Q-PCR).

9 STATISTICAL PROCEDURES

9.1 VARIABLES ANALYZED

- Body weight parameters
- Body weight change parameters calculated according to time intervals
- Average food consumption/day parameters calculated according to time intervals
- Hormonal parameters
- Terminal body weight, absolute and relative organ weights parameters
- Total cytochrome P450 content and liver enzyme activities

9.2 STATISTICAL METHODS

Mean and standard deviation will be calculated for each group.

• Body weight gain/day parameters,
Terminal body weight, absolute and relative organ weight parameters.
Mean and standard deviation will be calculated for each group and per time period for body weight gain/day parameters.
The F test will be performed to compare the homogeneity of group variances.
If the F test is not significant ($p>0.05$), mean of the exposed group will be compared to the mean of the control group using the t-test (2-sided).
If the F test is significant ($p\leq0.05$), mean of the exposed group will be compared to the mean of the control group using the modified t-test (2-sided).

• Body weight and average food consumption/day parameters,
Hormonal parameters,
Total cytochrome P450 content
Mean and standard deviation will be calculated for each group and per time period for average food consumption/day parameters.

The F test will be performed to compare the homogeneity of group variances.
If the F test is not significant ($p>0.05$), mean of the exposed group will be compared to the mean of the control group using the t-test (2-sided).
If the F test is significant ($p\leq0.05$), data will be transformed using the log transformation. If the F test on log transformed data is not significant ($p>0.05$), mean of the exposed group will be compared to the mean of the control group using the t-test (2-sided) on log transformed data.
If the F test is significant ($p\leq0.05$) even after log transformation, mean of the exposed group will be compared to the mean of the control group using the modified t-test (2-sided).

If one or more group variance(s) equaled 0, means will be compared using the non parametric Mann-Whitney test (2-sided).

- Liver enzyme activities

Group means will be compared using the exact Mann-Whitney test (2-sided).

Group means will be compared at the 5% and 1% levels of significance.
Statistical analyses will be carried out using Path/Tox System V4.2.2. (Module Enhanced Statistics) except for liver enzyme parameters which will be analyzed using SAS programs. Concerning the potential Q-PCR data for UDPGT, the statistical methods potentially used will be specified in the final report.

10 REPORTING

10.1 INTERIM REPORTS

Any unexpected findings during the course of the study will be reported to the Sponsor Representative.

10.2 FINAL REPORT

A copy of the draft report will be submitted to the Sponsor Representative for review. With the exception of the dated signature of scientists and other professional personnel, the draft report will contain all information and data to be included in the final report.

11 ARCHIVING

All raw data, supporting documents as well as protocol, protocol amendments and final report will be maintained at:

EPL Archives, Inc.,
45610 Terminal Drive
Sterling, VA 20166.
USA
Attn: Tony Ludi (1-703-435-8780)

Biological specimens and test substance reference sample will be kept and stored for a period of five years unless directed otherwise by the sponsor at:

Bayer CropScience
355, rue Dostoïevski
BP 153
06903 Sophia Antipolis Cedex
FRANCE

12 REFERENCES

GENERAL REFERENCES

ZAKIM D. and VESSEY D.A.: "The effects of lipid protein interactions on the kinetic parameters of microsomal UDP-glucuronosyltransferase". In: "Enzymes of biological membrane", New York, Plenum Press, 1976; 2, 443-461.

LANGRAND-LERCHE C. (2004): Phenobarbital and Clofibrate – Reference 28-d study for hepatotoxicity in the C57BL/6 mouse. (SA 03310). Bayer CropScience, Sophia Antipolis, France.

NTP 1998: Toxicology and carcinogenesis studies of t-butyl alcohol in F344 rats and B6C3F1 mice (drinking water studies). National Toxicology Program Technical Report Series No. 436. U.S. Department of Health and Human Services, Public Health Service, National Institutes of Health.

STATISTICAL REFERENCES

Bartlett test, in SOKAL R.R. and ROHLF F.J. (1981): Biometry, W.H. Freeman, New York, pp. 403-407.

DUNN O.J. (1964): Multiple comparisons using rank sums, *Technometrics*, Vol. 6, pp. 241-252.

DUNNETT C.W. (1955): A multiple comparison procedure for comparing several treatments with a control, *J. Amer. Statist. Ass.*, 50, pp. 1096-1121.

KRUSKAL W.H. and WALLIS W.A. (1952): Use of ranks in one criterion variance analysis, *J. Amer. Statist. Ass.*, 47, pp. 583-621.

Transformations (log transformation, square root transformation), in SOKAL R.R. and ROHLF F.J. (1981): Biometry, W.H. Freeman, New York, pp 417-428

SAS Software Release 8.2, SAS Institute Inc., Cary, NC, USA.

MANN H.B. and WHITNEY D.R. (1947): On a test of whether one of two random variables is stochastically larger than the other, Ann. Math. Statist., 18, pp. 50-60.

T-test and modified t-test in SNEDECOR G.W. and COCHRAN W.G. (1989): Statistical Methods, Eighth Edition – Chap 6 The comparison of two samples, Iowa State University Press/Ames.

PROTOCOL AMENDMENT

Protocol SA 08160

TERTIARY BUTANOL:
MECHANISTIC 14-DAY TOXICITY STUDY IN THE MOUSE
(HEPATOTOXICITY AND THYROID HORMONE INVESTIGATIONS)

Protocol amendment: N°1

Reason 1: Precision of the Duration of Compound Exposure.
Animals will be exposed to the relevant compound for at least 3 or 14 days.

Reason 2: Additional Date for Randomization
All animals in the 3-day exposure groups will be randomized on September 3, 2008. Animals in the 14-day exposure groups will be randomized on September 2, 2008 as written in the protocol.

Reason 3: Changes in Group and Animal Identities
Owing to constraints in the Path/Tox system, Groups 5-8 (ie. 14-day exposure groups) have been assigned group numbers 1-4. The identity of the animals in these groups is, therefore, also changed as shown in the table below:

GROUP	DURATION OF EXPOSURE	TEST SUBSTANCE	DOSE LEVELS	NUMBER OF ANIMALS PER GROUP	ANIMAL IDENTITY	
FEMALES					SG1 (Sept. 04, 2008)	SG2 (Sept. 05, 2008)
1	3 Days	Phenobarbital	80 mg/kg/day	15	ST1F3039 to 3047	ST1F3048 to 3053
2	3 Days	Control	0	15	ST2F3054 to 3059	ST2F3060 to 3068
3	3 Days	TERTIARY BUTANOL	2 mg/mL	15	ST3F3069 to 3077	ST3F3078 to 3083
4	3 Days		20 mg/mL	15	ST4F3084 to 3089	ST4F3090 to 3098
FEMALES					SG1 (Sept. 03, 2008)	SG2 (Sept. 04, 2008)
1	14 Days	Phenobarbital	80 mg/kg/day	15	ST1F3099 to 3107	ST1F3108 to 3113
2	14 Days	Control	0	15	ST2F3114 to 3119	ST2F3120 to 3128
3	14 Days	TERTIARY BUTANOL	2 mg/mL	15	ST3F3129 to 3137	ST3F3138 to 3143
4	14 Days		20 mg/mL	15	ST4F3144 to 3149	ST4F3150 to 3158

Reason 4: Precision concerning group nomenclature
To avoid confusion between groups of the same number, reference to the duration of the exposure period will replace all references to the group numbers in Section 4 and Section 8. Specifically, Groups 1-4 in the original protocol will be referred to as 3-day exposure groups and similarly, Groups 5-8 in the original protocol will be referred to as 14-day exposure groups.

Reason 5: Changes in the days assigned for physical examination
All animals in the 3-day exposure groups will be examined on Day 1 and Day 4. All animals in the 14-day exposure groups will be examined on Day 1, Day 8 and Day 15.

Reason 6: Precision concerning the Measurement of Water Consumption
Empty water bottles will be weighed on day 4 (3-day exposure groups) and on days 8 and 15 (14-day exposure groups).

Study Director:

Date: September 03, 2008

O.BLANCK

PROTOCOL AMENDMENT

Protocol SA 08160

TERTIARY BUTANOL:
MECHANISTIC 14-DAY TOXICITY STUDY IN THE MOUSE
(HEPATOTOXICITY AND THYROID HORMONE INVESTIGATIONS)

Protocol amendment: N°2

Reason 1: Change in the statistical methods

The statistical methods are changed as shown below:

Mean and standard deviation will be calculated for each group.

- Body weight gain/day parameters
  Terminal body weight, absolute and relative organ weight parameters

Mean and standard deviation will be calculated for each group and per time period for body weight gain/day parameters.

Comparison between the Phenobarbital treated group and the control group:
The F test will be performed to compare the homogeneity of group variances.

If the F test is not significant ($p>0.05$), mean of the exposed group will be compared to the mean of the control group using the t-test (2-sided).

If the F test is significant ($p\leq0.05$), mean of the exposed group will compared to the mean of the control group using the modified t-test (2-sided).

Comparison between the Tertiaryl butanol treated groups and the control group:
The Bartlett test will be performed to compare the homogeneity of group variances.

If the Bartlett test is not significant ($p>0.05$), means will be compared using the analysis of variance (ANOVA). If the ANOVA is not significant ($p>0.05$), the group means are considered to be homogeneous and no further analysis will be performed. If the ANOVA is significant ($p\leq0.05$), means of the exposed groups will be compared to the mean of the control group using the Dunnett test (2-sided).

If the Bartlett test is significant ($p\leq0.05$), group means will be compared using the non parametric Kruskal-Wallis test. If the Kruskal-Wallis test is not significant ($p>0.05$), the group means are considered to be homogeneous and no further analysis will be performed. If the Kruskal-Wallis test is significant ($p\leq0.05$), means of the exposed groups will be compared to the mean of the control group using the Dunn test (2-sided).

- Body weight and average food consumption/day parameters
  Hormonal parameters
  Total cytochrome P450 content

Mean and standard deviation will be calculated for each group and per time period for average food consumption/day parameters.

Comparison between the Phenobarbital treated group and the control group:
The F test will be performed to compare the homogeneity of group variances.

If the F test is not significant ($p>0.05$), mean of the exposed group will be compared to the mean of the control group using the t-test (2-sided).

If the F test is significant ($p\leq0.05$), data will be transformed using the log transformation. If the F test on log transformed data is not significant ($p>0.05$), mean of the exposed group will be compared to the mean of the control group using the t-test (2-sided) on log transformed data.

If the F test is significant ($p\leq0.05$), even after log transformation, mean of the exposed group will be compared to the mean of the control group using the modified t-test (2-sided).

Comparison between the Tertiaryl butanol treated groups and the control group:
The Bartlett test will be performed to compare the homogeneity of group variances.

If the Bartlett test is not significant ($p>0.05$), means will be compared using the analysis of variance (ANOVA). If the ANOVA is not significant ($p>0.05$), the group means are considered to be homogeneous and no further analysis will be performed. If the ANOVA is significant ($p\leq0.05$), means of the exposed groups will be compared to the mean of the control group using the Dunnett test (2-sided).

If the Bartlett test is significant ($p\leq0.05$), data will be transformed using the log transformation. If the Bartlett test on log transformed data is not significant ($p>0.05$), means will be compared using the ANOVA on log transformed data. If the ANOVA on log transformed data is not significant ($p>0.05$), the group means are considered to be homogeneous and no further analysis will be performed. If the ANOVA on log transformed data is significant ($p\leq0.05$), means of the exposed groups will be compared to the mean of the control group using the Dunnett test (2-sided) on log transformed data.

If the Bartlett test is significant ($p\leq0.05$), even after log transformation, group means will be compared using the non parametric Kruskal-Wallis test. If the Kruskal-Wallis test is not significant ($p>0.05$), the group means are considered to be homogeneous and no further analysis will be performed. If the Kruskal-Wallis test is significant ($p\leq0.05$), means of the exposed groups will be compared to the mean of the control group using the Dunn test (2-sided).

- Liver enzyme activities

Comparison between the Phenobarbital treated group and the control group:
Group means will be compared using the exact non parametric Mann-Whitney test (2-sided).

Comparison between the Tertiaryl butanol treated groups and the control group:

For each substrate of enzymatic activity, group means will be compared using the non parametric Kruskal-Wallis test. If the Kruskal-Wallis test is not significant ($p>0.05$), the group means are considered to be homogeneous and no further analysis will be performed. If the Kruskal-Wallis test is significant ($p\leq0.05$), means of the exposed groups will be compared to the mean of the control group using the Dunn test (2-sided).

If one or more group variance(s) equal 0, means will be compared using non-parametric procedures.

Group means will be compared at the 5% and 1% levels of signification.
Statistical analyses will be carried out using Path/Tox System V4.2.2. (Module Enhanced Statistics) except for P450 content and liver enzyme parameters which will be analyzed using SAS programs.
Concerning the potential Q-PCR data for UDPGT, statistical approaches will be described in the final report.

Study Director:

Date: September 04, 2008

O.BLANCK

PROTOCOL AMENDMENT

Protocol SA 08160

TERTIARY BUTANOL:
MECHANISTIC 14-DAY TOXICITY STUDY IN THE MOUSE
(HEPATOTOXICITY AND THYROID HORMONE INVESTIGATIONS)

Protocol amendment: N°3

Reason: Additional sampling for Quantitative Polymerase Chain Reaction analyses (8.3.1.3: Organs to collect)

A small piece of left lobe of the liver will also be collected from each animal

Study Director:

Date: September 08, 2008

O.BLANCK

ATTACHMENT 2 - CERTIFICATES OF ANALYSIS

COOPER

DUPLICATA le 8/11/07
C E R T I F I C A T D ' A N A L Y S E à 14:48:53 Page . 1

Article PHENOBARBITAL SODIQUE
Code Article 5007105

ot 06100228
:° Analyse 129217
Monographie 809 Version 7 Réf.2 Monographie PE 5
Date de Réception 20/10/06 Date de Libération 17/11/06

TESTS	SPECIFICATIONS Mini.	Maxi.	Unité	RESULTATS		
CARACTERES						
CARACTERES	POUDRE CRISTALLINE,BLANCHE,HYGROSCOPIQUE			CONFORME		
SOLUBILITE						
SOLUBILITE DANS L'EAU EXEMPTE DE DIOXYDE DE CARBONE	FACILEMENT SOLUBLE AVEC LEGER INSOLUBLE			FACILEMENT SOLUBLE		
SOLUBILITE DANS L'ALCOOL	SOLUBLE			CONFORME		
SOLUBILITE DANS LE CHLORURE DE METHYLENE	PRATIQUEMENT INSOLUBLE			CONFORME		
IDENTIFICATION						
IDENTIFICATION PAR CONTENANT	POSITIVE			POSITIVE		
IDENTIFICATION PAR CONTENANT	POSITIVE			POSITIVE		
POINT DE FUSION	VOISIN DE 176°C			175°C		
INTERVALLE ENTRE LES POINTS DE FUSION	0	2	°C		2	°C
SPECTRE D'ABSORPTION DANS L'INFRAROUGE	CONFORME			CONFORME		
SODIUM	POSITIVE			POSITIVE		
ESSAI						
ASPECT DE LA SOLUTION	LIMPIDE, MAXIMUM J7			CONFORME		
DETERMINATION DU PH	0.0	10.2			9.8	
SUBSTANCES APPARENTEES	MAXIMUM 0.5 P.100			CONFORME		
PERTE A LA DESSICCATION	0.0	7.0	P.100		6.0	P.100
DOSAGE						
TENEUR EN PHENOBARBITAL SODIQUE SUR PRODUIT SEC	99.0	101.0	P.100		99.6	P.100

DECISION PRODUIT ACCEPTE

CE CERTIFICAT N'EST PAS SIGNE CAR IL EST EMIS INFORMATIQUEMENT.
THIS CERTIFICATE HAS BEEN PRODUCED ELECTRONICALLY AND BEARS NO SIGNATURE.

DIRECTION QUALITE

Date exp les flacon : 11/2010 le 09/11/07

COOPERATION PHARMACEUTIQUE FRANÇAISE - Place Lucien Auvert - 77020 Melun cedex - Tel 01 64 87 20 00 - Fax 01 64 87 20 70 - www.cooper.fr
Société par Actions Simplifiée au capital de 27 169 900 euros - R C S Melun B 399 227 636 - Code TVA FR 58 399 227 636 - Code NAF 514N

Lyondell Chemical Company
One Houston Center
1221 McKinney
Houston TX 77010

Certificate Of Analysis

Certificate of Analysis Contact:
SAMPLES
SAMPLES

Lyondell Material	: 499249 TEBOL ® 99	**Customer Order No.**	: RESTOCK TEBOL 99
Chemical Description	: High Purity Tertiary Butyl Alcohol	**Ship To P.O. No.**	: 5617
Batch Number	: HL80417001	**Customer Number**	: SAMPLES
Vehicle Number	: FED EX PRO# 158478713-3	**Date Shipped**	: June 09, 2008
Estimated Quantity	: 1 DRM	**Lyondell Order No.**	: 1603852 000010
		Delivery Item No.	: 81962876 000010

Test Description	Test Result	Specifications Minimum	Maximum	Unit of Measure
TBA	99.58	99.30		weight %
Water	0.0218		0.1500	weight %
Distillation IBP @760 mmHg	82.3	81.5		degrees C
Distillation DP @760 mmHg	82.5		83.0	degrees C
Acidity (as acetic acid)	0.0010		0.0030	weight %
APHA Color	4		10	APHA Color
Freezing point	24.0	24.0		degrees C
Non-volatiles	0.0002		0.0010	g/100 ml

Data reported was generated in an approved Quality Assurance Lab.

Print Date: June 18, 2008 MMGONZAL
This information is available 24 hours a day at
www.CustomerXPRESS.com
Questions ? Call Customer Service: 888-777-0232

This Certificate of Analysis contains the most current information available as of the print date.
This document shall not be reproduced except in full, without the written approval of the issuer.