Study Title

SATELLITE PROCEDURE
GASOLINE TBA VAPOR CONDENSATE
RAT MICRONUCLEUS TEST

TEST GUIDELINES: US EPA Micronucleus Assay 79.64, CFR Vol. 59, No. 122, 27 June 1994.

US EPA OPPTS Health Effects Test Guidelines; 870.5395 Mammalian Erythrocyte Micronucleus Test (1998).

AUTHOR: Lincoln Pritchard BSc (Hons.)

STUDY COMPLETED ON: 05 December 2012

SUBCONTRACTOR: Huntingdon Life Sciences Ltd.,
Eye Research Centre (ERC)
Eye, Suffolk
IP23 7PX
ENGLAND.

HUNTINGDON LIFE SCIENCES LTD (PRC) STUDY NO.: 00-6131

HUNTINGDON LIFE SCIENCES LTD (ERC) INTERNAL REFERENCE NO.: APT/010

SUBCONTRACTOR'S SPONSOR: Huntingdon Life Sciences
Princeton Research Center (PRC)
Mettlers Road
East Millstone, NJ 08875-2360
USA

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Huntingdon Life Sciences (ERC) Internal Reference No: APT 010/024378

COMPLIANCE WITH GOOD LABORATORY PRACTICE STANDARDS

The slide evaluation phase of the study described in this report was conducted in compliance with the following Good Laboratory Practice standards and I consider the data generated to be valid.

The UK Good Laboratory Practice Regulations 1999 (Statutory Instrument No. 3106).

OECD Principles of Good Laboratory Practice (as revised in 1997), ENV/MC/CHEM(98)17.

EC Commission Directive 1999/11/EC of 8 March 1999 (Official Journal No. L 77/8).

US EPA 79.60, CFR Vol. 59, No. 122, 27 June 1994.

No compliance is claimed for work presented in the Experimental Procedure – In-life phase or Appendix 2 of this report.

Lincoln Pritchard BSc (Hons.)
Principal Investigator,
Huntingdon Life Sciences Ltd., ERC.

Date

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I am claiming compliance for the whole study with the following exceptions:

The identity, strength, purity and composition or other characteristics to define the positive control article has not been determined by the Testing Facility. The positive control article has been characterized as per the Certificate of Analysis on file with the Testing Facility. The stability of the positive control article has not been determined by the Testing Facility. Analyses to determine the uniformity (as applicable) or concentration of the positive control mixture were not performed by the Testing Facility. The stability of the positive control article mixture has not been determined by the Testing Facility.

Gary M. Hoffman, B.A., D.A.B.T.,
Study Director,
Huntingdon Life Sciences Ltd., PRC.

Date

Huntingdon Life Sciences (ERC) Internal Reference No: APT 010/024378

ERC - QUALITY ASSURANCE STATEMENT

The following inspection and audit have been carried out in relation to the slide evaluation phase of this study:

Study Phase	Date of Inspection	Date of Reporting to Principal Investigator and Test Site Management	Date of Reporting to Study Director, Test Facility Management and Lead OA
Process Based Inspection			
Slide scoring	1 November 2002	1 November 2002	-
Report Audit	25 November 2002	25 November 2002	28 November 2002

Process Based Inspection: At or about the time this phase of the study was in progress, inspections of routine and repetitive procedures employed on this type of study were carried out. The slide scoring inspection was conducted and reported to appropriate Company Management as indicated above.

Report Audit: This appendix has been audited by the test site Quality Assurance Department. This audit was conducted and reported to the Principal Investigator, test site Management, Study Director, test facility Management and lead Quality Assurance Department as indicated above.

Study based inspections were not performed on this phase of the study.

The methods, procedures and observations were found to be accurately described and the reported results of this appendix to reflect the raw data.

Helen Comb BSc, MRQA,
Unit Head,
Department of Quality Assurance,
Huntingdon Life Sciences Ltd.

05 December 2012
Date

PRC - QUALITY ASSURANCE STATEMENT

Listed below are the dates that this study was inspected by the Quality Assurance Unit of Huntingdon Life Sciences, East Millstone, New Jersey, and the dates that findings were reported to the Study Director and Management. This report reflects the raw data as far as can be reasonably established.

Type of Inspection	Date(s) of Inspection	Reported to Study Director and Management
GLP Protocol Review	9 Apr 02	9 Apr 02
Positive Control Genotoxicity Dose Prep & Adm	21 Aug 02	22 Aug 02
Genotoxicity Necropsy	22 Aug 02	22 Aug 02
Draft Micronucleus Report & In-Life Study Data	15-19,22 Aug 03 & 2 Dec 03	2 Dec 03

Kathleen Stilwell, AS, BS, LATg, SRS
Quality Assurance Auditor

1 MAR 2013

Date

Huntingdon Life Sciences (ERC) Internal Reference No: APT 010/024378

RESPONSIBLE PERSONNEL AND SCIENTIFIC APPROVAL

Gary M. Hoffman, B.A., D.A.B.T.,
Study Director
Department of Safety Assessment, PRC.

September 2013
Date

Lincoln Pritchard BSc (Hons.)
Principal Investigator
Department of Genetic Toxicology, ERC

5. December 2012
Date

SUMMARY

This satellite micronucleus study was designed to assess the potential induction of micronuclei by Gasoline TBA Vapor Condensate in bone marrow cells of the rat. Animals were exposed for four weeks (5 days per week) by inhalation administration of the test substance at exposure levels of 2000, 10000 and 20000 mg/m^3.

The test substance and negative control were administered by inhalation. The negative control group received clean air. A positive control group was dosed on one occasion by intraperitoneal injection, with cyclophosphamide at 40 mg/kg bodyweight.

Bone marrow smears were obtained from five male and five female animals in the negative control and each of the test substance groups 24 hours after the 20^{th} exposure and from the positive control group 24 hours after dosing. One smear from each animal was examined for the presence of micronuclei in 2000 immature erythrocytes. The proportion of immature erythrocytes was assessed by examination of at least 1000 erythrocytes from each animal. A record of the incidence of micronucleated mature erythrocytes was also kept.

No statistically significant increases in the frequency of micronucleated immature erythrocytes and no substantial decrease in the proportion of immature erythrocytes were observed in rats treated with Gasoline TBA Vapor Condensate compared to negative control values ($P>0.01$ in each case).

The positive control compound, Cyclophosphamide, produced large, significant increases in the frequency of micronucleated immature erythrocytes ($P<0.001$).

It is concluded that Gasoline TBA Vapor Condensate did not show any evidence of causing chromosome damage or bone marrow cell toxicity, in rats of either sex, when administered by inhalation exposure in this *in vivo* test procedure.

INTRODUCTION

The purpose of this satellite micronucleus study was to assess the potential of Gasoline TBA Vapor Condensate to induce mutagenic effects in rats following inhalation administration using an *in vivo* cytogenetic system (Boller and Schmid 1970, MacGregor *et al* 1987, Mavournin *et al* 1990). The inhalation route was selected for use in this test as the most likely route of human exposure.

The procedures used were based on the recommendations of the following guidelines:

- US EPA Micronucleus Assay 79.64, CFR Vol. 59, No. 122, 27 June 1994.
- US EPA OPPTS Health Effects Test Guidelines 870.5395; Mammalian Erythrocyte Micronucleus Test, August 1998.

The bone marrow micronucleus test, originally developed by Matter and Schmid (1971), is a widely employed and internationally accepted short-term assay for identification of genotoxic effects (chromosome damage and aneuploidy) associated with mutagens and carcinogens (Mavournin *et al* 1990). This *in vivo* system allows consideration of various factors including pharmacokinetics, metabolism and DNA repair which cannot be accurately modelled in an *in vitro* system. Young adult rats are chosen for use because of the high rate of cell division in the bone marrow, the wealth of background data on this species, and their general suitability for toxicological investigations.

In mitotic cells in which chromosomal breakage has been caused by the test substance or its metabolites, acentric fragments of the chromosomes do not separate at the anaphase stage of cell division. After telophase these fragments may not be included in the nuclei of the daughter cells and hence will form single or multiple micronuclei (Howell-Jolly bodies) in the cytoplasm of these cells. Micronuclei are seen in a wide variety of cells, but erythrocytes are chosen for examination since micronuclei are not obscured by the main nucleus and are therefore easily detected in this cell type (Boller and Schmid 1970).

Micronucleated immature erythrocytes appear in the bone marrow approximately 24 hours after induction of chromosome damage. These immature erythrocytes can be differentiated by a variety of staining techniques which rely on their relatively high content of residual RNA. Using the Feulgen method, they stain blue while mature erythrocytes (which contain little RNA) are counterstained orange. An increased incidence of micronucleated immature erythrocytes is indicative of recent exposure to a chromosome-damaging agent. A simultaneous marked increase in the incidence of micronucleated mature erythrocytes is not expected and may be indicative of micronucleus-like artifacts (Schmid 1976).

Substances which interfere with the mitotic spindle apparatus will cause non-disjunction (unequal separation of the chromosomes at anaphase resulting in aneuploidy) or lagging chromosomes at anaphase which may not be incorporated into the daughter nuclei. These lagging chromosomes are not excluded from the erythroblast with the main nucleus and hence also give rise to micronuclei.

Any toxic effects of the test substance on the nucleated cells may lead either to a reduction in cell division or to cell death. These effects in turn lead to a reduction in the number of nucleated cells and immature erythrocytes; to compensate for this, peripheral blood is shunted into the bone marrow (von Ledebur and Schmid 1973). If the proportion of immature erythrocytes is found to be significantly less than the control value, this is taken as being indicative of toxicity. A very large decrease in the proportion would be indicative of a cytostatic or cytotoxic effect.

The slide evaluation phase of the satellite micronucleus study was performed at the Department of Genetic Toxicology, Huntingdon Life Sciences (ERC), Eye, Suffolk, IP23 7PX, England.

The experimental start and completion dates of the slide evaluation phase of the study were 11 September 2002 and 28 October 2002 respectively.

EXPERIMENTAL PROCEDURE

In-life phase

The in-life phase of the study was carried out at the Princeton Research Center starting on 26 July 2001 and was completed on 21 August 2001.

All animals in the negative control and test substance groups were exposed for four weeks (5 days per week) by inhalation. The non-exposed positive control group was dosed with Cyclophosphamide administered on one occasion by intraperitoneal injection at a volume dosage of 10 ml/kg bodyweight. Cyclophosphamide (CP, CAS # 6055-19-2, lot number 91K1176, received 20 August 2002, expiration 30 September 2004, white powder, storage 2-8ºC, purity 99.5%), was obtained from the Sigma Chemical Company (responsible for its characterization), and was dissolved and diluted in sterile distilled water at Huntingdon Life Sciences to stock concentrations of 4.0 mg/mL for use as the positive control for the micronucleus study.

The experimental design is shown below:

Group	Treatment	Exposure Level (mg/m^3)	Animal Numbers	
			Male	Female
1	Air control	-	1081 - 1085	1591 – 1595
2	Test Substance	2000	2071 - 2075	2581 – 2585
3	Test Substance	10000	3071 - 3075	3581 – 3585
4	Test Substance	20000	4081 – 4085	4591 – 4595
6	Cyclophosphamide	40 (mg/kg)	6051 – 6055	6561 - 6565

Five males and five females from the negative control and each of the test substance groups were sacrificed 24 hours after the final exposure period by isoflurane inhalation/exsanguination. Five males and five females from the positive control group were sacrificed 24 hours after CP dosing by CO_2 inhalation/exsanguination. Both femurs were exposed, cut just above the knee and the bone marrow was aspirated into a syringe containing a small volume (about 0.5 mL) of serum. The cells were then flushed into a centrifuge tube of cold serum. The tubes were identified by labels containing the study, group number, and animal number.

The bone marrow cells were pelleted by centrifugation at about 150 x g for about 5 min and the supernatant drawn off, leaving a small amount of serum with the cell pellet. The cells were resuspended by aspiration with a pasteur pipette and a small drop of cells was spread onto a clean glass slide. Four slides were prepared from each animal. The slides were allowed to air dry, fixed by dipping for about 3 minutes in methanol, and aged overnight or longer prior to staining. Slides were labelled with experiment and animal number using a lead pencil.

Two slides from each animal were despatched to Huntingdon Life Sciences (ERC), Eye, Suffolk, IP23 7PX, England for slide staining and analysis. The remaining 2 smears and the cell pellet (refrigerated) were held in reserve at PRC in case of technical problems with the first 2 smears.

Slide evaluation

Due to the presence of mast cell granules in rat bone smears, which appear identical to micronuclei when stained using the Romanowsky methods, a modified Feulgen staining method is employed for the rat micronucleus test in this laboratory. This method specifically stains DNA-containing bodies deep purple while leaving mast cell granules unstained. The method also allows reasonable differentiation of mature and immature erythrocytes and produces permanent preparations.

Two slides from each animal were stained as follows:

1. Hydrolysed in Bouin's fluid at room temperature for approximately 28 hours.
2. Washed three times in purified water (5 minutes per wash).
3. Stained in Schiff's reagent for one hour at room temperature.
4. Washed three times in purified water (5 minutes per wash).
5. Counter-stained for ten minutes in very dilute (approximately 0.06 g/l) aqueous Eosin yellowish.
6. Washed for five minutes in purified water.
7. Stained for 30 minutes in Mayer's Haemalum diluted 9 volumes: 1 volume with aqueous acridine orange solution in purified water (1 mg/ml).
8. Rinsed in purified water.
9. Rinsed in running tap water.
10. Washed for 5 minutes in purified water.
11. Air-dried.
12. Slides were mounted with coverslips using DPX mountant.
13. The mountant was allowed to harden at approximately 37°C.

NB All stains and Bouin's fluid were filtered immediately prior to use to remove particulate material.

The stained smears were examined (under code) by light microscopy to determine the incidence of micronucleated cells per 2000 polychromatic erythrocytes per animal. One smear per animal was examined. The remaining smears were held temporarily in reserve in case of technical problems with the first smear.

Micronuclei are identified by the following criteria:

- Large enough to discern morphological characteristics
- Should possess a generally rounded shape with a clearly defined outline
- Should be deeply stained and similar in colour to the nuclei of other cells - not black
- Should lie in the same focal plane as the cell
- Lack internal structure, *i.e.* they are pyknotic
- There should be no micronucleus-like debris in the area surrounding the cell

The proportion of immature erythrocytes for each animal was assessed by examination of at least 1000 erythrocytes. A record of the number of micronucleated mature erythrocytes observed during assessment of this proportion was also kept as recommended by Schmid (1976).

Deviations from Protocol

This phase of the study was conducted in compliance with the following additional Good Laboratory Practice Standards: the UK Good Laboratory Practice Regulations 1999 (Statutory Instrument No. 3106), the OECD Principles of Good Laboratory Practice (as revised in 1997), ENV/MC/CHEM(98)17 and the EC Commission Directive 1999/11/EC of 8 March 1999 (Official Journal No. L 77/8).

Slides were hydrolysed in Bouin's fluid at room temperature for approximately 28 hours.

The statistical analysis was performed at Huntingdon Life Sciences Ltd., Eye, Suffolk, IP23 7PX, England.

These deviations were considered to have had no effect on the integrity or validity of the study.

ASSESSMENT OF RESULTS

The results for each treatment group were compared with the results for the concurrent negative control group using non-parametric statistics. Non-parametric statistical methods were chosen for analysis of results because:

- They are suited to analysis of data consisting of discrete/integer values with ties such as the incidence of micronucleated immature erythrocytes.
- The methods make few assumptions about the underlying distribution of data and therefore the values do not require transformation to fit a theoretical distribution (where data can be approximately fitted to a normal distribution, the results of non-parametric analysis and classical analysis of variance are very similar).
- 'Outliers' are frequently found in the proportion of immature erythrocytes for both control and treated animals; non-parametric analysis based on rank does not give these values an undue weighting.

Unless there is a substantial difference in response between sexes, results for the two sexes are combined to facilitate interpretation and maximise the power of statistical analysis.

For incidences of micronucleated immature erythrocytes, exact one-sided p-values are calculated by permutation (StatXact, CYTEL Software Corporation, Cambridge, Massachussetts). Comparison of several dose levels is made with the concurrent control using the Linear by Linear Association test for trend, in a step-down fashion if significance is detected (Agresti *et al.* 1990); for individual inter-group comparisons (*i.e.* the positive control group) this procedure simplifies to a straightforward permutation test (Gibbons 1985). For assessment of effects on the proportion of immature erythrocytes, equivalent permutation tests based on rank scores are used, *i.e.* exact versions of Wilcoxon's sum of ranks test and Jonckheere's test for trend.

A positive response is normally indicated by a statistically significant dose-related increase in the incidence of micronucleated immature erythrocytes for the treatment group compared with the concurrent control group ($P<0.01$); individual and/or group mean values should exceed the laboratory historical control range (Morrison and Ashby 1995).

A negative result is indicated where individual and group mean incidences of micronucleated immature erythrocytes for the group treated with the test substance are not significantly greater than incidences for the concurrent control group ($P>0.01$) and where these values fall within the historical control range. An equivocal response is obtained when the results do not meet the criteria specified for a positive or negative response.

Bone marrow cell toxicity (or depression) is normally indicated by a substantial and statistically significant dose-related decrease in the proportion of immature erythrocytes ($P<0.01$).

MAINTENANCE OF RECORDS

All raw data, samples and specimens arising from the performance of this phase of the study will remain the property of the Sponsor.

Types of sample and specimen that are unsuitable, by reason of instability, for long term retention and archiving may be disposed of.

All other samples and specimens and all raw data will be retained by Huntingdon Life Sciences PRC in its archive for a period of one year from the date on which the Study Director signs the final report. After such time, the Sponsor will be contacted and their advice sought on the return, disposal or further retention of the materials. If requested, Huntingdon Life Sciences will continue to retain the materials subject to a reasonable fee being agreed with the Sponsor.

Huntingdon Life Sciences will retain the Quality Assurance records relevant to this study and a copy of the final report in its archive indefinitely.

RESULTS

MICRONUCLEUS TEST

Statistical analysis was independently performed for male and female rats. However, as no substantial differences in response were observed, the data from both sexes was combined (Table 1). The results are as follows:

Micronucleated immature erythrocyte counts (mie)

The test substance did not cause any statistically significant increases in the number of micronucleated immature erythrocytes [P>0.01].

Cyclophosphamide caused large, significant increases in the frequency of micronucleated immature erythrocytes [P<0.001].

Micronucleated mature erythrocytes (mme)

The test substance did not cause any substantial increases in the incidence of micronucleated mature erythrocytes.

Proportion of immature erythrocytes (% ie/[ie + me])

The test substance failed to cause any significant decreases in the proportion of immature erythrocytes [P>0.01].

Cyclophosphamide failed to cause a statistically significant decrease in the proportion [P>0.01].

CONCLUSION

No statistically significant increases in the frequency of micronucleated immature erythrocytes and no substantial decrease in the proportion of immature erythrocytes were observed in rats treated with Gasoline TBA Vapor Condensate compared to negative control values (P>0.01 in each case).

It is concluded that Gasoline TBA Vapor Condensate did not show any evidence of causing chromosome damage or bone marrow cell toxicity, in rats of either sex, when administered by inhalation exposure in this *in vivo* test procedure.

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TABLE 1

Summary of results and statistical analysis

Sampling time	Treatment	Exposure level ($mg/m^{3)}$	Proportion of ie (mean ±SD) †	Incidence mie (mean ±SD)	Incidence mme (group mean) [a]
24 Hours	Negative control	-	43 ± 4.5	1.6 ± 1.5	0.0
	TS	2000	46 ± 2.9	0.9 ± 0.6	0.0
	TS	10000	44 ± 3.1	1.6 ± 1.6	0.0
	TS	20000	46 ± 4.9	1.8 ± 1.1	0.3
	Cyclophosphamide	40 mg/kg	41 ± 4.9	13.7 ± 5.9 ***	0.0

TS	Gasoline TBA Vapor Condensate
ie	Immature erythrocytes
mie	Number of micronucleated cells observed per 2000 immature erythrocytes examined
me	Mature erythrocytes
mme	Number of micronucleated cells calculated per 2000 mature erythrocytes
SD	Standard deviation

Results of statistical analysis using the appropriate nonparametric method of analysis based on permutation (one-sided probabilities):

***	$P < 0.001$	(significant)
otherwise	$P > 0.01$	(not significant)

† Occasional apparent errors of ± 1% may occur due to rounding of values for presentation in the table

[a] Formula for calculation of incidence mme (group mean):

$$\frac{\text{Sum of group incidence } \textbf{mme} \text{ scored} \times 2000}{\text{Sum of group } \textbf{me} \text{ scored}}$$

TABLE 2

Results for individual animals - 24 hour sampling time

Treatment	Exposure level (mg/m^3)	Animal number	ie	me	Proportion of ie	Incidence mie	Incidence mme
Negative control	-	M 1081	454	553	45	1	0
		M 1082	548	700	44	5	0
		M 1083	397	655	38	0	0
		M 1084	518	701	42	3	0
		M 1085	501	517	49	2	0
		F 1591	442	719	38	2	0
		F 1592	511	534	49	1	0
		F 1593	551	648	46	1	0
		F 1594	510	589	46	1	0
		F 1595	437	749	37	0	0
TS	2000	M 2071	487	527	48	1	0
		M 2072	536	651	45	1	0
		M 2073	508	638	44	1	0
		M 2074	531	612	46	0	0
		M 2075	464	697	40	1	0
		F 2581	536	585	48	1	0
		F 2582	477	606	44	1	0
		F 2583	541	545	50	2	0
		F 2584	547	675	45	1	0
		F 2585	622	675	48	0	0
TS	10000	M 3071	404	607	40	3	0
		M 3072	561	700	44	1	0
		M 3073	471	602	44	5	0
		M 3074	588	664	47	2	0
		M 3075	461	621	43	1	0
		F 3581	529	590	47	3	0
		F 3582	547	700	44	0	0
		F 3583	436	691	39	0	0
		F 3584	501	564	47	0	0
		F 3585	504	542	48	1	0
TS	20000	M 4081	506	586	46	3	1
		M 4082	600	664	47	1	0
		M 4083	359	752	32	1	0
		M 4084	564	587	49	1	0
		M 4085	531	687	44	1	0
		F 4591	478	540	47	3	0
		F 4592	653	701	48	0	0
		F 4593	552	612	47	3	0
		F 4594	490	529	48	3	0
		F 4595	579	672	46	2	0

TS Gasoline TBA Vapor Condensate
ie Immature erythrocytes
mie Number of micronucleated cells observed per 2000 immature erythrocytes
me Total number of mature erythrocytes examined for micronuclei
mme Number of micronucleated mature erythrocytes observed

TABLE 2 - continued

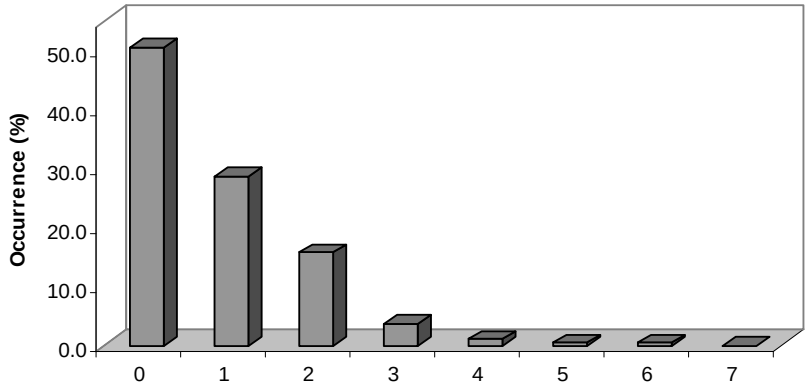
Results for individual animals - 24 hour sampling time

Treatment	Dosage	Animal number	ie	me	Proportion of ie	Incidence mie	Incidence mme
Cyclophosphamide	40 mg/kg	M 6051	366	701	34	18	0
		M 6052	390	697	36	22	0
		M 6053	494	708	41	17	0
		M 6054	453	693	40	12	0
		M 6055	346	663	34	21	0
		F 6561	447	588	43	7	0
		F 6562	436	651	40	11	0
		F 6563	525	594	47	14	0
		F 6564	587	773	43	4	0
		F 6565	592	643	48	11	0

ie Immature erythrocytes
mie Number of micronucleated cells observed per 2000 immature erythrocytes
me Total number of mature erythrocytes examined for micronuclei
mme Number of micronucleated mature erythrocytes observed

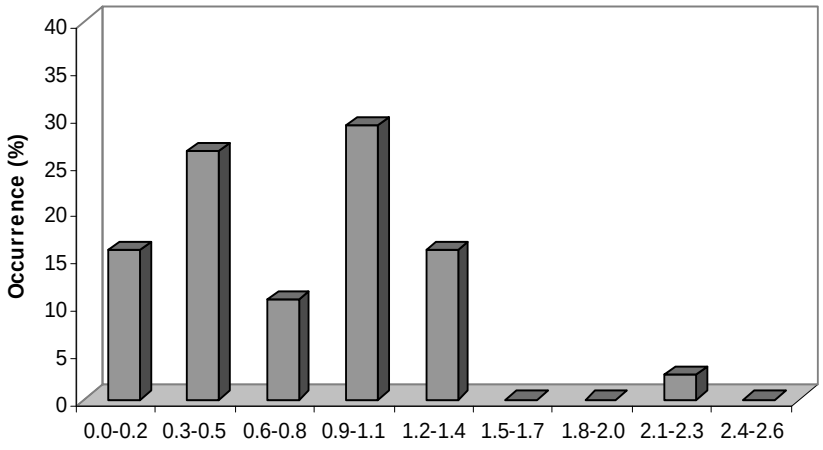
APPENDIX 1

Historical negative control values (1 July 2000 - 30 June 2002)
Frequency of micronucleated immature erythrocytes (individual animals)



Individual mean 0.79

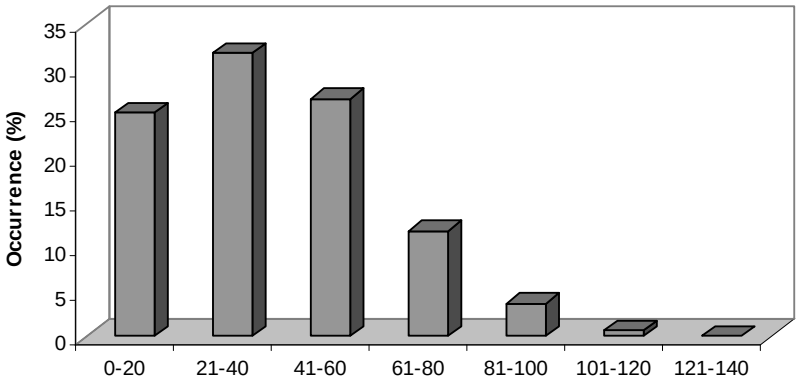
Historical negative control values (1 July 2000 - 30 June 2002)
Frequency of micronucleated immature erythrocytes (Group mean values)



Group mean 0.73

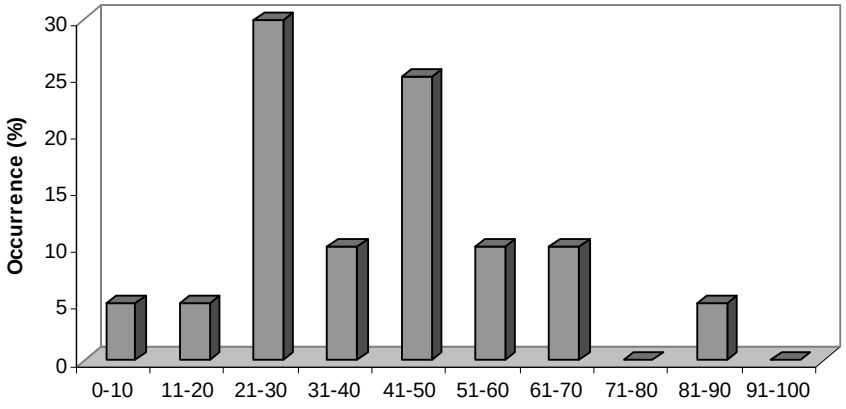
APPENDIX 1 – continued

Historical positive control values (1 July 2000 - 30 June 2002)
Frequency of micronucleated immature erythrocytes (Individual animals)
Cyclophosphamide



Number of micronucleated immature erythrocytes (MIE per 2000 cells)
Individual mean 38.7

Historical positive control values (1 July 2000 - 30 June 2002)
Frequency of micronucleated immature erythrocytes (Group mean values)
Cyclophosphamide



Number of micronucleated immature erythrocytes (MIE per 2000)
Group mean **39.9**

APPENDIX 2: GLP COMPLIANCE STATEMENTS

THE DEPARTMENT OF HEALTH OF THE GOVERNMENT OF THE UNITED KINGDOM

GOOD LABORATORY PRACTICE

STATEMENT OF COMPLIANCE
IN ACCORDANCE WITH DIRECTIVE 88/320 EEC

LABORATORY	TEST TYPE
Huntingdon Life Sciences **Eye Research Centre** **Eye** **Suffolk** **IP23 7PX**	**Analytical Chemistry** **Clinical Chemistry** **Ecosystems** **Environmental Fate** **Environmental Toxicity** **Mutagenicity** **Phys/Chem Testing** **Toxicology**

DATE OF INSPECTION

29th January 2001

A general inspection for compliance with the Principles of Good Laboratory Practice was carried out at the above laboratory as part of UK GLP Compliance Programme.

At the time of the inspection no deviations were found of sufficient magnitude to affect the validity of non-clinical studies performed at these facilities.

Roger J. Alexander
3/4/01

Dr. Roger G. Alexander
Head, UK GLP Monitoring Authority

THE DEPARTMENT OF HEALTH OF THE GOVERNMENT OF THE UNITED KINGDOM

GOOD LABORATORY PRACTICE

STATEMENT OF COMPLIANCE
IN ACCORDANCE WITH DIRECTIVE 88/320 EEC

LABORATORY	TEST TYPE
Huntingdon Life Sciences **Huntingdon Research Centre** **Wooley Road** **Alconbury** **Huntingdon** **Cambs.** **PE28 4HS**	**Analytical Chemistry** **Clinical Chemistry** **Ecosystems** **Environmental Fate** **Environmental Toxicity** **Phys/Chem Testing** **Toxicology**

DATE OF INSPECTION
15th January 2001

A general inspection for compliance with the Principles of Good Laboratory Practice was carried out at the above laboratory as part of UK GLP Compliance Programme.

At the time of the inspection no deviations were found of sufficient magnitude to affect the validity of non-clinical studies performed at these facilities.

3/4/01

Dr. Roger G. Alexander
Head, UK GLP Monitoring Authority

THE DEPARTMENT OF HEALTH OF THE GOVERNMENT OF THE UNITED KINGDOM

GOOD LABORATORY PRACTICE

STATEMENT OF COMPLIANCE
IN ACCORDANCE WITH DIRECTIVE 88/320 EEC

LABORATORY	TEST TYPE
Huntingdon Life Sciences **Eye Research Centre** **Occold** **Eye** **Suffolk** **IP23 7PX**	**Analytical Chemistry** **Ecosystems** **Environmental Fate** **Environmental Toxicity** **Mutagenicity** **Toxicology** **Phys/Chem Tests**

DATE OF INSPECTION
22nd April 2003

A general inspection for compliance with the Principles of Good Laboratory Practice was carried out at the above laboratory as part of UK GLP Compliance Programme.

At the time of the inspection no deviations were found of sufficient magnitude to affect the validity of non-clinical studies performed at these facilities.

Roger G. Alexander
25/7/03

Dr. Roger G. Alexander
Head, UK GLP Monitoring Authority

THE DEPARTMENT OF HEALTH OF THE GOVERNMENT OF THE UNITED KINGDOM

GOOD LABORATORY PRACTICE

STATEMENT OF COMPLIANCE
IN ACCORDANCE WITH DIRECTIVE 2004/9/EC

LABORATORY

Huntingdon Life Sciences
Eye Research Centre
Occold
Eye
Suffolk
IP23 7PX

TEST TYPE

Analytical Chemistry
Clinical Chemistry
Ecosystems
Environmental Fate
Environmental Toxicity
Mutagenicity
Toxicology
Phys/Chem Testing

DATE OF INSPECTION

12th April 2005

A general inspection for compliance with the Principles of Good Laboratory Practice was carried out at the above laboratory as part of the UK GLP Compliance Programme.

At the time of inspection no deviations were found of sufficient magnitude to affect the validity of non-clinical studies performed at these facilities.

Bryan J. Wright 9/6/05

Mr. Bryan J. Wright
Head, UK GLP Monitoring Authority

Department of Health

THE DEPARTMENT OF HEALTH OF THE GOVERNMENT OF THE UNITED KINGDOM

GOOD LABORATORY PRACTICE

STATEMENT OF COMPLIANCE IN ACCORDANCE WITH DIRECTIVE 2004/9/EC

TEST FACILITY

Huntingdon Life Sciences
Eye Research Centre
Occold
Eye
Suffolk
IP23 7PX

TEST TYPE

Analytical Chemistry
Ecosystems
Environmental Fate
Environmental Toxicity
Mutagenicity
Phys/Chem Testing
Toxicology

DATE OF INSPECTION

28th January 2008

A general inspection for compliance with the Principles of Good Laboratory Practice was carried out at the above test facility as part of the UK GLP Compliance Programme.

At the time of inspection no deviations were found of sufficient magnitude to affect the validity of non-clinical studies performed at these facilities.

4/03/08

Dr. Andrew J. Gray
Head, UK GLP Monitoring Authority

MHRA

Department of Health

THE DEPARTMENT OF HEALTH OF THE GOVERNMENT OF THE UNITED KINGDOM

GOOD LABORATORY PRACTICE

STATEMENT OF COMPLIANCE IN ACCORDANCE WITH DIRECTIVE 2004/9/EC

TEST FACILITY

Huntingdon Life Sciences
Eye Research Centre
Occold
Eye
Suffolk
IP23 7PX

TEST TYPE

Analytical/Clinical Chemistry
Ecosystems
Environmental Fate
Environmental Toxicity
Mutagenicity
Phys/Chem Testing
Toxicology

DATE OF INSPECTION

17-19 February 2009

A general inspection for compliance with the Principles of Good Laboratory Practice was carried out at the above test facility as part of the UK GLP Compliance Programme.

At the time of inspection no deviations were found of sufficient magnitude to affect the validity of non-clinical studies performed at these facilities.

1/5/09

Dr. Andrew J. Gray
Head, UK GLP Monitoring Authority

MHRA

Department of Health

THE DEPARTMENT OF HEALTH OF THE GOVERNMENT OF THE UNITED KINGDOM

GOOD LABORATORY PRACTICE

STATEMENT OF COMPLIANCE IN ACCORDANCE WITH DIRECTIVE 2004/9/EC

TEST FACILITY

Huntingdon Life Sciences
Eye Research Centre
Occold
Eye
Suffolk
IP23 7PX

TEST TYPE

Analytical/Clinical Chemistry
Ecosystems
Environmental Fate
Environmental Toxicity
Mutagenicity
Physico-chemical Testing
Residue Studies
Toxicology

DATE OF INSPECTION

26 January 2010

A general inspection for compliance with the Principles of Good Laboratory Practice was carried out at the above test facility as part of the UK GLP Compliance Programme.

At the time of inspection no deviations were found of sufficient magnitude to affect the validity of non-clinical studies performed at these facilities.

22/3/10

Dr. Andrew J. Gray
Head, UK GLP Monitoring Authority

MHRA

DH Department of Health

THE DEPARTMENT OF HEALTH OF THE GOVERNMENT OF THE UNITED KINGDOM

GOOD LABORATORY PRACTICE

STATEMENT OF COMPLIANCE IN ACCORDANCE WITH DIRECTIVE 2004/9/EC

TEST FACILITY

Huntingdon Life Sciences
Eye Research Centre
Occold
Eye
Suffolk
IP23 7PX

TEST TYPE

Analytical/Clinical Chemistry
Environmental Fate
Environmental Toxicity
Ecosystems
Phys.Chem. Testing
Residue studies
Mutagenicity
Toxicology

DATE OF INSPECTION

28th - 30th June 2011

A general inspection for compliance with the Principles of Good Laboratory Practice was carried out at the above test facility as part of the UK GLP Compliance Programme.

At the time of inspection no deviations were found of sufficient magnitude to affect the validity of non-clinical studies performed at these facilities.

17/8/11

Dr. Andrew J. Gray
Head, UK GLP Monitoring Authority

MHRA

DH Department of Health

THE DEPARTMENT OF HEALTH OF THE GOVERNMENT OF THE UNITED KINGDOM

GOOD LABORATORY PRACTICE

STATEMENT OF COMPLIANCE IN ACCORDANCE WITH DIRECTIVE 2004/9/EC

TEST FACILITY

Huntingdon Life Sciences
Eye Research Centre
Occold
Eye
Suffolk
IP23 7PX

TEST TYPE(S)

Analytical/Clinical
Chemistry
Environmental Fate
Environmental Toxicity
Ecosystems
Phys.Chem. Testing
Residue studies
Mutagenicity
Toxicology

DATE OF INSPECTION
18th – 20th June 2012

An inspection for compliance with the Principles of Good Laboratory Practice was carried out at the above test facility as part of the UK Good Laboratory Practice Compliance Monitoring Programme.

This statement confirms that, on the date of issue, the UK Good Laboratory Practice Monitoring Authority were satisfied that the above test facility was operating in compliance with the OECD Principles of Good Laboratory Practice.

This statement constitutes a Good Laboratory Practice Instrument (as defined in the UK Good Laboratory Practice Regulations 1999).

14/9/12

Dr. Andrew J. Gray
Head, UK GLP Monitoring Authority

MHRA

APPENDIX 3

ANIMAL EXPOSURE AND OBSERVATIONS DATA

	Animal Exposure and Animal Data Preface	Appendix 3

INTRODUCTION: The following is data generated at Huntingdon Life Sciences, East Millstone, NJ. The separately issued main study report should be referenced for details of the procedures used for test atmosphere generation/characterization and animal evaluations.

STUDY DATES:

Date of Animal Receipt:	15 July 2002
Experimental Initiation Date:	26 July 2002 (in-life)
Experimental Completion Date:	22 August 2002 (in-life)

EXPOSURES AND IN-LIFE SUMMARY: The actual measured results during the exposures were comparable to the targeted exposure levels. There were no exposure-related effects seen in the test animals with regards to body weights and feed consumption.

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TABLES

Table A GASOLINE TBA VAPOR CONDENSATE: A 13-WEEK WHOLE-BODY INHALATION TOXICITY STUDY IN RATS 00-6131

Chamber Monitoring Results
Cumulative Exposure Record
Group IA - 0 (air only) mg/m^3

Day	Date	Exposure Number	Analytical Chamber Concentration						Particle Size Determinations			Chamber Environment	
			Nominal	Mean	Individual				MMAD	GSD	TMC	Mean Temperature	Humidity
			(mg/m^3)	(mg/m^3)	(mg/m^3)				(μm)		(mg/m^3)	(°C)	(%)
0	26-Jul-02	1	0	0	0	0	0	0				25	53
1	27-Jul-02	2	0	0	0	0	0	0				25	53
4	29-Jul-02	3	0	0	0	0	0	0				25	51
5	30-Jul-02	4	0	0	0	0	0	0				24	51
6	31-Jul-02	5	0	0	0	0	0	0	2.423	2.755	4.95E-03	24	54
7	1-Aug-02	6	0	0	0	0	0	0				24	54
8	2-Aug-02	7	0	0	0	0	0	0				24	55
11	5-Aug-02	8	0	0	0	0	0	0				24	51
12	6-Aug-02	9	0	0	0	0	0	0				25	43
13	7-Aug-02	10	0	0	0	0	0	0				26	47
14	8-Aug-02	11	0	0	0	0	0	0	3.669	2.135	7.68E-03	25	48
15	9-Aug-02	12	0	0	0	0	0	0				25	51
18	12-Aug-02	13	0	0	0	0	0	0				26	50
19	13-Aug-02	14	0	0	0	0	0	0	0.7598	1.887	2.19E-02	25	51
20	14-Aug-02	15	0	0	0	0	0	0				25	52
21	15-Aug-02	16	0	0	0	0	0	0				24	55
22	16-Aug-02	17	0	0	0	0	0	0				24	54
25	19-Aug-02	18	0	0	0	0	0	0				25	51
26	20-Aug-02	19	0	0	0	0	0	0	10.81	3.298	6.53E-03	25	52
27	21-Aug-02	20	0	0	0	0	0	0				25	55
		Mean	**0**		**0**				**4.415**	**2.519**	**1.03E-02**	**24.8**	**51.6**
		S.D.	**0**		**0**				**4.426**	**0.635**	**6.79E-03**	**0.6**	**3.0**

Table A GASOLINE TBA VAPOR CONDENSATE: A 13-WEEK WHOLE-BODY INHALATION TOXICITY STUDY IN RATS

Chamber Monitoring Results
Cumulative Exposure Record
Group IB - 0 (air only) mg/m^3

Day	Date	Exposure Number	Analytical Chamber Concentration						Particle Size Determinations			Chamber Environment	
			Nominal	Mean	Individual							Mean Temperature	Humidity
			(mg/m^3)	(mg/m^3)	(mg/m^3)				MMAD (μm)	GSD	TMC (mg/m^3)	(°C)	(%)
0	26-Jul-02	1	0	0	0	0	0	0				23	55
1	27-Jul-02	2	0	0	0	0	0	0				24	55
4	29-Jul-02	3	0	0	0	0	0	0				24	53
5	30-Jul-02	4	0	0	0	0	0	0				25	53
6	31-Jul-02	5	0	0	0	0	0	0	3.102	2.358	7.27E-03	25	56
7	1-Aug-02	6	0	0	0	0	0	0				25	56
8	2-Aug-02	7	0	0	0	0	0	0				25	56
11	5-Aug-02	8	0	0	0	0	0	0				25	53
12	6-Aug-02	9	0	0	0	0	0	0				24	45
13	7-Aug-02	10	0	0	0	0	0	0				24	49
14	8-Aug-02	11	0	0	0	0	0	0	2.850	1.972	5.51E-03	24	50
15	9-Aug-02	12	0	0	0	0	0	0				24	52
18	12-Aug-02	13	0	0	0	0	0	0				24	53
19	13-Aug-02	14	0	0	0	0	0	0	0.7383	1.341	2.12E-02	25	54
20	14-Aug-02	15	0	0	0	0	0	0				25	54
21	15-Aug-02	16	0	0	0	0	0	0				25	56
22	16-Aug-02	17	0	0	0	0	0	0				25	54
25	19-Aug-02	18	0	0	0	0	0	0				25	52
26	20-Aug-02	19	0	0	0	0	0	0	3.732	2.486	6.47E-03	24	56
27	21-Aug-02	20	0	0	0	0	0	0				23	56
		Mean	**0**		**0**				**2.606**	**2.039**	**1.01E-02**	**24.4**	**53.4**
		S.D.	**0**		**0**				**1.299**	**0.514**	**6.43E-03**	**0.7**	**2.8**

Table A GASOLINE TBA VAPOR CONDENSATE: A 13-WEEK WHOLE-BODY INHALATION TOXICITY STUDY IN RATS

Chamber Monitoring Results
Cumulative Exposure Record
Group IIA - 2,000 mg/m^3

Day	Date	Exposure Number	Analytical Chamber Concentration						Particle Size Determinations			Chamber Environment	
			Nominal	Mean	Individual							Mean Temperature	Humidity
			(mg/m^3)	(mg/m^3)	(mg/m^3)				MMAD (μm)	GSD	TMC (mg/m^3)	(°C)	(%)
0	26-Jul-02	1	1830	1840	1850	1750	1780	1980				23	50
1	27-Jul-02	2	2090	2000	2070	1860	2060	2010				23	50
4	29-Jul-02	3	2070	1935	2120	1860	1860	1900				24	48
5	30-Jul-02	4	1990	1933	1770	1980	1890	2090				23	49
6	31-Jul-02	5	2010	1953	1940	1990	2010	1870	2.312	2.133	4.69E-03	23	51
7	1-Aug-02	6	2150	1975	1930	1960	2030	1980				23	51
8	2-Aug-02	7	2110	2005	2090	1810	1840	2280				23	50
11	5-Aug-02	8	2080	1970	2080	2070	2080	1650				23	48
12	6-Aug-02	9	1950	1963	2010	1990	1980	1870				24	40
13	7-Aug-02	10	2020	2135	2370	2050	2060	2060				24	44
14	8-Aug-02	11	2160	2188	2400	2470	1800	2080	4.144	2.109	9.38E-03	24	44
15	9-Aug-02	12	2020	1953	1770	1870	2120	2050				24	46
18	12-Aug-02	13	2020	1845	2130	1780	1700	1770				24	47
19	13-Aug-02	14	2190	2043	1750	1850	2340	2230	0.7525	1.783	2.35E-02	23	47
20	14-Aug-02	15	2090	2023	1980	2030	2020	2060				23	48
21	15-Aug-02	16	2090	2013	1850	2170	2000	2030				23	50
22	16-Aug-02	17	2140	2070	1890	2030	2020	2340				23	49
25	19-Aug-02	18	2200	2090	2070	2030	2210	2050				23	48
26	20-Aug-02	19	2070	2068	2120	2040	2170	1940	0.8197	1.539	2.61E-03	24	48
27	21-Aug-02	20	2130	2183	2400	2280	2040	2010				24	52
		Mean	**2071**		**2009**				**2.007**	**1.891**	**1.00E-02**	**23.4**	**48.0**
		S.D.	**88**		**170**				**1.596**	**0.284**	**8.15E-03**	**0.5**	**2.8**

Table A GASOLINE TBA VAPOR CONDENSATE: A 13-WEEK WHOLE-BODY INHALATION TOXICITY STUDY IN RATS 00-6131

Chamber Monitoring Results
Cumulative Exposure Record
Group IIB - 2,000 mg/m^3

Day	Date	Exposure Number	Analytical Chamber Concentration						Particle Size Determinations			Chamber Environment	
			Nominal	Mean	Individual				MMAD	GSD	TMC	Mean Temperature	Humidity
			(mg/m^3)	(mg/m^3)	(mg/m^3)				(μm)		(mg/m^3)	(°C)	(%)
0	26-Jul-02	1	1830	1928	1800	1910	1970	2030				22	52
1	27-Jul-02	2	2090	2105	2130	2110	2100	2080				22	53
4	29-Jul-02	3	2070	2060	1920	1960	2010	2350				23	50
5	30-Jul-02	4	1990	1935	1820	2000	1890	2030				23	52
6	31-Jul-02	5	2010	1830	1730	1790	2000	1800	3.582	2.537	6.02E-03	23	54
7	1-Aug-02	6	2150	2048	2030	2010	2080	2070				23	55
8	2-Aug-02	7	2110	2123	2400	2130	2140	1820				23	55
11	5-Aug-02	8	2080	2020	1940	1940	1800	2400				23	51
12	6-Aug-02	9	1950	2018	2010	1990	1980	2090				23	43
13	7-Aug-02	10	2020	1970	2050	1950	1900	1980				23	46
14	8-Aug-02	11	2160	2203	1720	2610	2200	2280	2.398	2.155	2.09E-03	23	47
15	9-Aug-02	12	2020	1968	2170	1780	1980	1940				22	50
18	12-Aug-02	13	2020	2088	1870	1980	2220	2280				23	49
19	13-Aug-02	14	2190	2165	2180	1890	2310	2280	0.7703	2.300	1.73E-02	24	50
20	14-Aug-02	15	2090	2008	2050	2010	1960	2010				23	52
21	15-Aug-02	16	2090	1995	2000	1990	2030	1960				23	53
22	16-Aug-02	17	2140	2028	2110	2020	2080	1900				23	53
25	19-Aug-02	18	2200	2073	2050	2090	2180	1970				24	50
26	20-Aug-02	19	2070	2030	1970	1960	1910	2280	0.8346	1.505	2.64E-03	22	54
27	21-Aug-02	20	2130	2025	1980	1950	2090	2080				22	56
		Mean	**2071**		**2031**				**1.896**	**2.124**	**7.01E-03**	**22.9**	**51.3**
		S.D.	**88**		**160**				**1.353**	**0.442**	**6.13E-03**	**0.6**	**3.3**

Table A GASOLINE TBA VAPOR CONDENSATE: A 13-WEEK WHOLE-BODY INHALATION TOXICITY STUDY IN RATS

Chamber Monitoring Results
Cumulative Exposure Record
Group IIIA - 10,000 mg/m^3

Day	Date	Exposure Number	Nominal	Analytical Chamber Concentration						Particle Size Determinations			Chamber Environment	
				Mean	Individual								Mean Temperature	Humidity
			(mg/m^3)	(mg/m^3)	(mg/m^3)					MMAD (μm)	GSD	TMC (mg/m^3)	(°C)	(%)
0	26-Jul-02	1	10100	10490	11200	10700	10100	9950					23	50
1	27-Jul-02	2	9960	9908	9130	9480	11100	9920					24	50
4	29-Jul-02	3	10200	10130	10900	9770	9920	9920					24	50
5	30-Jul-02	4	10400	10380	10100	10500	10500	10400					23	50
6	31-Jul-02	5	10300	10780	10300	10900	11800	10100		8.779	2.634	7.41E-03	23	52
7	1-Aug-02	6	10400	10000	10500	10000	9800	9700					23	52
8	2-Aug-02	7	9790	10500	9800	10700	10500	11000					23	52
11	5-Aug-02	8	10000	9818	10100	9610	9160	10400					23	49
12	6-Aug-02	9	9580	10210	8650	10100	11500	10600					24	40
13	7-Aug-02	10	10500	10580	10500	10900	10700	10200					24	44
14	8-Aug-02	11	9910	10200	9920	10900	10100	9860		2.937	2.122	3.72E-03	24	44
15	9-Aug-02	12	9770	10010	10400	9950	10000	9700					24	47
18	12-Aug-02	13	9770	9763	10000	9610	9610	9830					24	47
19	13-Aug-02	14	10000	10190	10700	10100	10000	9950		0.7457	1.589	2.45E-02	23	49
20	14-Aug-02	15	9560	10220	9580	9390	12000	9920					23	51
21	15-Aug-02	16	9660	9463	10000	8700	8650	10500					23	52
22	16-Aug-02	17	9850	10180	10500	10200	9700	10300					23	52
25	19-Aug-02	18	10100	10020	10000	9290	10300	10500					23	48
26	20-Aug-02	19	10600	10440	11200	9770	10200	10600		0.8931	1.546	2.23E-03	24	50
27	21-Aug-02	20	10000	9868	9700	8870	10200	10700					24	51
		Mean	**10020**		**10160**					**3.339**	**1.973**	**9.47E-03**	**23.5**	**49.0**
		S.D.	**302**		**641**					**3.762**	**0.513**	**8.88E-03**	**0.5**	**3.2**

Table A GASOLINE TBA VAPOR CONDENSATE: A 13-WEEK WHOLE-BODY INHALATION TOXICITY STUDY IN RATS 00-6131

Chamber Monitoring Results
Cumulative Exposure Record
Group IIIB - 10,000 mg/m^3

Day	Date	Exposure Number	Analytical Chamber Concentration						Particle Size Determinations			Chamber Environment	
			Nominal	Mean	Individual				MMAD	GSD	TMC	Mean Temperature	Humidity
			(mg/m^3)	(mg/m^3)	(mg/m^3)				(μm)		(mg/m^3)	(°C)	(%)
0	26-Jul-02	1	10100	10010	10200	10100	10100	9640				23	47
1	27-Jul-02	2	9960	10500	10700	10100	11000	10200				23	48
4	29-Jul-02	3	10200	10020	9260	11200	9920	9700				23	49
5	30-Jul-02	4	10400	10000	9450	10600	10100	9860				24	47
6	31-Jul-02	5	10300	10090	9540	10100	10400	10300	1.403	1.947	2.32E-03	24	48
7	1-Aug-02	6	10400	10160	10500	10100	10100	9920				24	48
8	2-Aug-02	7	9790	10100	9390	10000	10500	10500				24	48
11	5-Aug-02	8	10000	10240	10100	10700	10900	9260				24	46
12	6-Aug-02	9	9580	10620	9990	11100	11000	10400				24	39
13	7-Aug-02	10	10500	10750	10500	11100	10600	10800				24	42
14	8-Aug-02	11	9910	11150	10900	11800	11300	10600	2.459	1.985	2.80E-03	24	41
15	9-Aug-02	12	9770	10260	10500	9950	10400	10200				23	44
18	12-Aug-02	13	9770	10680	10400	9920	11000	11400				24	45
19	13-Aug-02	14	10000	10280	10300	10300	10200	10300	0.7601	2.395	2.68E-02	24	45
20	14-Aug-02	15	9560	10240	10400	9420	11200	9920				24	46
21	15-Aug-02	16	9660	9605	10300	9200	8420	10500				24	47
22	16-Aug-02	17	9850	10330	10400	10300	10000	10600				24	48
25	19-Aug-02	18	10100	9880	9610	8810	10500	10600				24	45
26	20-Aug-02	19	10600	10380	10600	9800	10600	10500	0.9700	1.968	3.03E-03	24	47
27	21-Aug-02	20	10000	9955	10000	9320	10500	10000				23	48
		Mean	**10020**		**10260**				**1.398**	**2.074**	**8.74E-03**	**23.8**	**45.9**
		S.D.	**302**		**588**				**0.756**	**0.215**	**1.04E-02**	**0.4**	**2.7**

Chamber Monitoring Results
Cumulative Exposure Record
Group IVA - 20,000 mg/m^3

Day	Date	Exposure Number	Analytical Chamber Concentration						Particle Size Determinations			Chamber Environment	
			Nominal	Mean	Individual				MMAD	GSD	TMC	Mean Temperature	Humidity
			(mg/m^3)	(mg/m^3)	(mg/m^3)				(μm)		(mg/m^3)	(°C)	(%)
0	26-Jul-02	1	18900	20500	20600	20400	20500	20500				26	51
1	27-Jul-02	2	19100	20650	21300	20700	19800	20800				26	52
4	29-Jul-02	3	18400	19800	20000	18900	20100	20200				26	52
5	30-Jul-02	4	18500	20380	19600	20300	20600	21000				25	51
6	31-Jul-02	5	18900	19500	19500	18900	19800	19800	1.689	2.289	2.75E-03	25	52
7	1-Aug-02	6	19100	19480	19100	19400	19100	20300				25	52
8	2-Aug-02	7	18900	19250	19600	20000	18900	18500				25	53
11	5-Aug-02	8	18800	19530	19300	20000	19100	19700				25	51
12	6-Aug-02	9	19100	19950	18900	20400	20600	19900				26	43
13	7-Aug-02	10	19700	21380	20600	21400	21700	21800				26	45
14	8-Aug-02	11	18800	20530	18000	21300	21600	21200	2.505	2.034	3.68E-03	26	46
15	9-Aug-02	12	18700	19480	19500	19400	19000	20000				26	49
18	12-Aug-02	13	18800	19200	19400	19700	19200	18500				26	49
19	13-Aug-02	14	19000	18500	18200	20000	19400	16400	0.7685	1.346	1.81E-02	25	50
20	14-Aug-02	15	19500	19000	18500	19000	18600	19900				25	53
21	15-Aug-02	16	19400	19430	19200	19600	19200	19700				25	55
22	16-Aug-02	17	19100	20630	20000	21400	20500	20600				25	53
25	19-Aug-02	18	19300	19500	20000	18300	19100	20600				25	50
26	20-Aug-02	19	19200	20250	21600	19700	19700	20000	1.301	2.802	4.37E-03	26	51
27	21-Aug-02	20	18800	20300	20200	20000	20600	20400				26	54
		Mean	**19000**		**19860**				**1.566**	**2.118**	**7.23E-03**	**25.5**	**50.6**
		S.D.	**321**		**954**				**0.731**	**0.606**	**6.30E-03**	**0.5**	**3.0**

Table A GASOLINE TBA VAPOR CONDENSATE: A 13-WEEK WHOLE-BODY INHALATION TOXICITY STUDY IN RATS

Chamber Monitoring Results
Cumulative Exposure Record
Group IVB - 20,000 mg/m³

Day	Date	Exposure Number	Analytical Chamber Concentration						Particle Size Determinations			Chamber Environment	
			Nominal	Mean	Individual				MMAD	GSD	TMC	Mean Temperature	Humidity
			(mg/m³)	(mg/m³)	(mg/m³)				(μm)		(mg/m³)	(°C)	(%)
0	26-Jul-02	1	18900	19550	19000	19000	20400	19800				24	52
1	27-Jul-02	2	19100	19650	19300	19600	19500	20200				24	54
4	29-Jul-02	3	18400	20080	19900	20200	20100	20100				24	52
5	30-Jul-02	4	18500	19400	18700	18600	19700	20600				26	51
6	31-Jul-02	5	18900	20250	20200	20400	20400	20000	1.032	1.790	1.88E-03	26	51
7	1-Aug-02	6	19100	20180	20300	19800	19900	20700				25	53
8	2-Aug-02	7	18900	19600	19500	19500	18900	20500				26	52
11	5-Aug-02	8	18800	19880	20000	19900	19600	20000				26	51
12	6-Aug-02	9	19100	19880	20000	20500	19300	19700				25	43
13	7-Aug-02	10	19700	20650	20600	20300	20600	21100				25	47
14	8-Aug-02	11	18800	19330	17400	19500	20300	20100	1.793	1.769	2.30E-03	24	46
15	9-Aug-02	12	18700	20300	20700	20300	19600	20600				24	48
18	12-Aug-02	13	18800	20050	19900	20200	20200	19900				25	50
19	13-Aug-02	14	19000	19750	20100	20200	19800	18900	0.7982	2.481	2.51E-02	26	50
20	14-Aug-02	15	19500	19980	19600	20200	19500	20600				25	51
21	15-Aug-02	16	19400	20580	20700	20300	20100	21200				25	55
22	16-Aug-02	17	19100	20650	19700	21000	21000	20900				25	53
25	19-Aug-02	18	19300	20330	19700	20300	20000	21300				26	50
26	20-Aug-02	19	19200	20030	21300	19700	20200	18900	0.9155	1.711	3.08E-03	25	52
27	21-Aug-02	20	18800	20500	20200	20600	20600	20600				24	55
		Mean	**19000**		**20030**				**1.135**	**1.938**	**8.09E-03**	**25.0**	**50.8**
		S.D.	**321**		**662**				**0.449**	**0.364**	**9.83E-03**	**0.8**	**3.0**

TABLE B

GASOLINE TBA VAPOR CONDENSATE: A 13-WEEK WHOLE-BODY INHALATION TOXICITY STUDY IN RATS WITH NEUROTOXICITY ASSESSMENTS AND 4-WEEK IN VIVO GENOTOXICITY AND IMMUNOTOXICITY ASSESSMENTS

MALES — SUMMARY OF CLINICAL OBSERVATIONS

	GROUP#	DAY OF STUDY -4	TOTAL
# OF ANIMALS EXAMINED	1	5	
	2	5	
	3	5	
	4	5	
	6	5	
NORMAL			
WITHIN NORMAL LIMITS	1	5	5
	2	5	5
	3	5	5
	4	5	5
	6	5	5

TABLE B

GASOLINE TBA VAPOR CONDENSATE: A 13-WEEK WHOLE-BODY INHALATION TOXICITY STUDY IN RATS WITH NEUROTOXICITY ASSESSMENTS AND 4-WEEK IN VIVO GENOTOXICITY AND IMMUNOTOXICITY ASSESSMENTS

FEMALES — SUMMARY OF CLINICAL OBSERVATIONS

	GROUP#	DAY OF STUDY -4	TOTAL
# OF ANIMALS EXAMINED	1	5	
	2	5	
	3	5	
	4	5	
	6	5	
NORMAL			
WITHIN NORMAL LIMITS	1	5	5
	2	5	5
	3	5	5
	4	5	5
	6	5	5

TABLE C

GASOLINE TBA VAPOR CONDENSATE: A 13-WEEK WHOLE-BODY INHALATION TOXICITY STUDY IN RATS WITH NEUROTOXICITY ASSESSMENTS AND 4-WEEK IN VIVO GENOTOXICITY AND IMMUNOTOXICITY ASSESSMENTS

MALES — MEAN BODY WEIGHTS (GRAMS)

	DOSE GROUP:	I	II	III	IV	VI
	DOSE LEVEL (MG/M3):	0	2000	10000	20000	MICRO+CONTROL
DAY -3	MEAN	148	147	145	146	147
	S.D.	13.8	12.5	12.2	9.3	9.8
	N	5	5	5	5	5
DAY 4	MEAN	204	205	200	210	209
	S.D.	18.5	11.9	17.3	15.3	10.6
	N	5	5	5	5	5
DAY 11	MEAN	257	259	253	267	266
	S.D.	22.3	14.4	22.5	22.3	10.9
	N	5	5	5	5	5
DAY 18	MEAN	311	309	307	322	322
	S.D.	26.9	16.2	22.4	29.2	16.4
	N	5	5	5	5	5
DAY 25	MEAN	355	349	350	363	364
	S.D.	30.9	22.2	26.8	31.7	21.4
	N	5	5	5	5	5

No statistically significant differences

TABLE C

GASOLINE TBA VAPOR CONDENSATE: A 13-WEEK WHOLE-BODY INHALATION TOXICITY STUDY IN RATS WITH NEUROTOXICITY ASSESSMENTS AND 4-WEEK IN VIVO GENOTOXICITY AND IMMUNOTOXICITY ASSESSMENTS

FEMALES — MEAN BODY WEIGHTS (GRAMS)

	DOSE GROUP:	I	II	III	IV	VI
	DOSE LEVEL (MG/M3):	0	2000	10000	20000	MICRO+CONTROL
DAY -3	MEAN	129	128	127	128	128
	S.D.	8.2	8.4	6.6	5.5	6.9
	N	5	5	5	5	5
DAY 4	MEAN	161	158	167	163	165
	S.D.	13.3	10.6	10.8	7.8	8.1
	N	5	5	5	5	5
DAY 11	MEAN	194	184	193	188	192
	S.D.	18.1	15.1	12.7	8.0	7.1
	N	5	5	5	5	5
DAY 18	MEAN	218	208	223	219	218
	S.D.	23.6	18.3	28.0	10.3	7.8
	N	5	5	5	5	5
DAY 25	MEAN	237	222	235	235	238
	S.D.	22.9	22.0	15.0	10.2	10.7
	N	5	5	5	5	5

No statistically significant differences

TABLE D

GASOLINE TBA VAPOR CONDENSATE: A 13-WEEK WHOLE-BODY INHALATION TOXICITY STUDY IN RATS WITH NEUROTOXICITY ASSESSMENTS AND 4-WEEK IN VIVO GENOTOXICITY AND IMMUNOTOXICITY ASSESSMENTS

MALES — MEAN BODY WEIGHT CHANGE FROM BASELINE (GRAMS)

DOSE GROUP:		I	II	III	IV	VI
DOSE LEVEL (MG/M3):		0	2000	10000	20000	MICRO+CONTROL
DAY -3 TO 11	MEAN	109	112	108	121	119
	S.D.	9.1	3.3	10.7	15.9	3.8
	N	5	5	5	5	5
DAY -3 TO 18	MEAN	164	162	162	176	175
	S.D.	13.8	4.9	10.8	22.7	9.7
	N	5	5	5	5	5
DAY -3 TO 25	MEAN	207	202	205	217	218
	S.D.	18.3	11.0	16.2	25.5	16.6
	N	5	5	5	5	5

No statistically significant differences

TABLE D

GASOLINE TBA VAPOR CONDENSATE: A 13-WEEK WHOLE-BODY INHALATION TOXICITY STUDY IN RATS WITH NEUROTOXICITY ASSESSMENTS AND 4-WEEK IN VIVO GENOTOXICITY AND IMMUNOTOXICITY ASSESSMENTS

FEMALES — MEAN BODY WEIGHT CHANGE FROM BASELINE (GRAMS)

DOSE GROUP:		I	II	III	IV	VI
DOSE LEVEL (MG/M3):		0	2000	10000	20000	MICRO+CONTROL
DAY -3 TO 11	MEAN	65	56	67	60	64
	S.D.	13.9	10.3	6.8	6.8	8.3
	N	5	5	5	5	5
DAY -3 TO 18	MEAN	88	80	96	90	90
	S.D.	19.1	16.2	24.8	9.3	10.0
	N	5	5	5	5	5
DAY -3 TO 25	MEAN	107	94	109	107	110
	S.D.	16.8	20.8	12.3	6.0	11.2
	N	5	5	5	5	5

No statistically significant differences

TABLE E

GASOLINE TBA VAPOR CONDENSATE: A 13-WEEK WHOLE-BODY INHALATION TOXICITY STUDY IN RATS WITH NEUROTOXICITY ASSESSMENTS AND 4-WEEK IN VIVO GENOTOXICITY AND IMMUNOTOXICITY ASSESSMENTS

MALES — MEAN FEED CONSUMPTION VALUES (GRAMS/KG/DAY)

	DOSE GROUP:	I	II	III	IV	VI
	DOSE LEVEL (MG/M3):	0	2000	10000	20000	MICRO+CONTROL
DAY 4	MEAN	126	126	124	128	132
	S.D.	3.8	8.8	2.9	8.1	5.4
	N	5	5	5	5	5
DAY 11	MEAN	106	110	102	107	109
	S.D.	3.1	3.1	3.2	4.4	5.3
	N	5	5	5	5	5
DAY 18	MEAN	97	98	95	93	95
	S.D.	4.0	3.8	1.8	1.5	5.7
	N	5	5	3	5	5
DAY 25	MEAN	85	88	83	83	86
	S.D.	3.8	3.7	3.7	1.8	5.6
	N	5	5	5	5	5

No statistically significant differences

TABLE E

GASOLINE TBA VAPOR CONDENSATE: A 13-WEEK WHOLE-BODY INHALATION TOXICITY STUDY IN RATS WITH NEUROTOXICITY ASSESSMENTS AND 4-WEEK IN VIVO GENOTOXICITY AND IMMUNOTOXICITY ASSESSMENTS

FEMALES — MEAN FEED CONSUMPTION VALUES (GRAMS/KG/DAY)

	DOSE GROUP:	I	II	III	IV	VI
	DOSE LEVEL (MG/M3):	0	2000	10000	20000	MICRO+CONTROL
DAY 4	MEAN	128	125	127	122	120
	S.D.	14.3	10.3	8.8	3.3	3.1
	N	5	5	4	5	5
DAY 11	MEAN	105	108	114	105	106
	S.D.	7.7	6.4	17.6	3.9	4.0
	N	5	5	5	5	5
DAY 18	MEAN	93	100	102*	99	94
	S.D.	2.7	6.3	6.1	5.0	2.2
	N	5	5	4	5	5
DAY 25	MEAN	89	94	92	92	89
	S.D.	3.9	5.6	3.4	2.8	3.4
	N	5	5	5	5	5

Statistical key: * = p<0.05

APPENDIX F

GASOLINE TBA VAPOR CONDENSATE: A 13-WEEK WHOLE-BODY INHALATION TOXICITY STUDY IN RATS WITH NEUROTOXICITY ASSESSMENTS AND 4-WEEK IN VIVO GENOTOXICITY AND IMMUNOTOXICITY ASSESSMENTS

INDIVIDUAL WEEKLY CLINICAL OBSERVATIONS

MALES GROUP I 0 MG/M3

ANIMAL#	OBSERVATIONS	DAY OF STUDY - 4
1081	WITHIN NORMAL LIMITS	P
1082	WITHIN NORMAL LIMITS	P
1083	WITHIN NORMAL LIMITS	P
1084	WITHIN NORMAL LIMITS	P
1085	WITHIN NORMAL LIMITS	P

CODE: 1-SLIGHT 2-MODERATE 3-MARKED P-PRESENT

APPENDIX F

GASOLINE TBA VAPOR CONDENSATE: A 13-WEEK WHOLE-BODY INHALATION TOXICITY STUDY IN RATS WITH NEUROTOXICITY ASSESSMENTS AND 4-WEEK IN VIVO GENOTOXICITY AND IMMUNOTOXICITY ASSESSMENTS

INDIVIDUAL WEEKLY CLINICAL OBSERVATIONS

MALES GROUP II 2000 MG/M3

ANIMAL#	OBSERVATIONS	DAY OF STUDY 4
2071	WITHIN NORMAL LIMITS	P
2072	WITHIN NORMAL LIMITS	P
2073	WITHIN NORMAL LIMITS	P
2074	WITHIN NORMAL LIMITS	P
2075	WITHIN NORMAL LIMITS	P

CODE: 1-SLIGHT 2-MODERATE 3-MARKED P-PRESENT

APPENDIX F

GASOLINE TBA VAPOR CONDENSATE: A 13-WEEK WHOLE-BODY INHALATION TOXICITY STUDY IN RATS WITH NEUROTOXICITY ASSESSMENTS AND 4-WEEK IN VIVO GENOTOXICITY AND IMMUNOTOXICITY ASSESSMENTS

INDIVIDUAL WEEKLY CLINICAL OBSERVATIONS

MALES GROUP III 10000 MG/M3

ANIMAL#	OBSERVATIONS	DAY OF STUDY	- 4
3071	WITHIN NORMAL LIMITS		P
3072	WITHIN NORMAL LIMITS		P
3073	WITHIN NORMAL LIMITS		P
3074	WITHIN NORMAL LIMITS		P
3075	WITHIN NORMAL LIMITS		P

CODE: 1-SLIGHT 2-MODERATE 3-MARKED P-PRESENT

APPENDIX F

GASOLINE TBA VAPOR CONDENSATE: A 13-WEEK WHOLE-BODY INHALATION TOXICITY STUDY IN RATS WITH NEUROTOXICITY ASSESSMENTS AND 4-WEEK IN VIVO GENOTOXICITY AND IMMUNOTOXICITY ASSESSMENTS

INDIVIDUAL WEEKLY CLINICAL OBSERVATIONS

MALES GROUP IV 20000 MG/M3

ANIMAL#	OBSERVATIONS	DAY OF STUDY	4
4081	WITHIN NORMAL LIMITS		P
4082	WITHIN NORMAL LIMITS		P
4083	WITHIN NORMAL LIMITS		P
4084	WITHIN NORMAL LIMITS		P
4085	WITHIN NORMAL LIMITS		P

CODE: 1-SLIGHT 2-MODERATE 3-MARKED P-PRESENT

APPENDIX F

GASOLINE TBA VAPOR CONDENSATE: A 13-WEEK WHOLE-BODY INHALATION TOXICITY STUDY IN RATS WITH NEUROTOXICITY ASSESSMENTS AND 4-WEEK IN VIVO GENOTOXICITY AND IMMUNOTOXICITY ASSESSMENTS

INDIVIDUAL WEEKLY CLINICAL OBSERVATIONS

MALES GROUP VI MICRO+CONTROL

ANIMAL#	OBSERVATIONS	DAY OF STUDY - 4
6051	WITHIN NORMAL LIMITS	P
6052	WITHIN NORMAL LIMITS	P
6053	WITHIN NORMAL LIMITS	P
6054	WITHIN NORMAL LIMITS	P
6055	WITHIN NORMAL LIMITS	P

CODE: 1-SLIGHT 2-MODERATE 3-MARKED P-PRESENT

APPENDIX F

GASOLINE TBA VAPOR CONDENSATE: A 13-WEEK WHOLE-BODY INHALATION TOXICITY STUDY IN RATS WITH NEUROTOXICITY ASSESSMENTS AND 4-WEEK IN VIVO GENOTOXICITY AND IMMUNOTOXICITY ASSESSMENTS

INDIVIDUAL WEEKLY CLINICAL OBSERVATIONS

FEMALES GROUP I 0 MG/M3

ANIMAL#	OBSERVATIONS	DAY OF STUDY - 4
1591	WITHIN NORMAL LIMITS	P
1592	WITHIN NORMAL LIMITS	P
1593	WITHIN NORMAL LIMITS	P
1594	WITHIN NORMAL LIMITS	P
1595	WITHIN NORMAL LIMITS	P

CODE: 1-SLIGHT 2-MODERATE 3-MARKED P-PRESENT

APPENDIX F

GASOLINE TBA VAPOR CONDENSATE: A 13-WEEK WHOLE-BODY INHALATION TOXICITY STUDY IN RATS WITH NEUROTOXICITY ASSESSMENTS AND 4-WEEK IN VIVO GENOTOXICITY AND IMMUNOTOXICITY ASSESSMENTS

INDIVIDUAL WEEKLY CLINICAL OBSERVATIONS

FEMALES GROUP II 2000 MG/M3

ANIMAL#	OBSERVATIONS	DAY OF STUDY - 4
2581	WITHIN NORMAL LIMITS	P
2582	WITHIN NORMAL LIMITS	P
2583	WITHIN NORMAL LIMITS	P
2584	WITHIN NORMAL LIMITS	P
2585	WITHIN NORMAL LIMITS	P

CODE: 1-SLIGHT 2-MODERATE 3-MARKED P-PRESENT

APPENDIX F

GASOLINE TBA VAPOR CONDENSATE: A 13-WEEK WHOLE-BODY INHALATION TOXICITY STUDY IN RATS WITH NEUROTOXICITY ASSESSMENTS AND 4-WEEK IN VIVO GENOTOXICITY AND IMMUNOTOXICITY ASSESSMENTS

INDIVIDUAL WEEKLY CLINICAL OBSERVATIONS

FEMALES GROUP III 10000 MG/M3

ANIMAL#	OBSERVATIONS	DAY OF STUDY - 4
3581	WITHIN NORMAL LIMITS	P
3582	WITHIN NORMAL LIMITS	P
3583	WITHIN NORMAL LIMITS	P
3584	WITHIN NORMAL LIMITS	P
3585	WITHIN NORMAL LIMITS	P

CODE: 1-SLIGHT 2-MODERATE 3-MARKED P-PRESENT

APPENDIX F

GASOLINE TBA VAPOR CONDENSATE: A 13-WEEK WHOLE-BODY INHALATION TOXICITY STUDY IN RATS WITH NEUROTOXICITY ASSESSMENTS AND 4-WEEK IN VIVO GENOTOXICITY AND IMMUNOTOXICITY ASSESSMENTS

INDIVIDUAL WEEKLY CLINICAL OBSERVATIONS

FEMALES GROUP IV 20000 MG/M3

ANIMAL#	OBSERVATIONS	DAY OF STUDY - 4
4591	WITHIN NORMAL LIMITS	P
4592	WITHIN NORMAL LIMITS	P
4593	WITHIN NORMAL LIMITS	P
4594	WITHIN NORMAL LIMITS	P
4595	WITHIN NORMAL LIMITS	P

CODE: 1-SLIGHT 2-MODERATE 3-MARKED P-PRESENT

APPENDIX F

GASOLINE TBA VAPOR CONDENSATE: A 13-WEEK WHOLE-BODY INHALATION TOXICITY STUDY IN RATS WITH NEUROTOXICITY ASSESSMENTS AND 4-WEEK IN VIVO GENOTOXICITY AND IMMUNOTOXICITY ASSESSMENTS

INDIVIDUAL WEEKLY CLINICAL OBSERVATIONS

FEMALES GROUP VI MICRO+CONTROL

ANIMAL#	OBSERVATIONS	DAY OF STUDY - 4
6561	WITHIN NORMAL LIMITS	P
6562	WITHIN NORMAL LIMITS	P
6563	WITHIN NORMAL LIMITS	P
6564	WITHIN NORMAL LIMITS	P
6565	WITHIN NORMAL LIMITS	P

CODE: 1-SLIGHT 2-MODERATE 3-MARKED P-PRESENT

TABLE G

GASOLINE TBA VAPOR CONDENSATE: A 13-WEEK WHOLE-BODY INHALATION TOXICITY STUDY IN RATS WITH NEUROTOXICITY ASSESSMENTS AND 4-WEEK IN VIVO GENOTOXICITY AND IMMUNOTOXICITY ASSESSMENTS

INDIVIDUAL BODY WEIGHTS (GRAMS)

MALES GROUP I 0 MG/M3

	DAY OF STUDY				
ANIMAL#	-3	4	11	18	25
1081	143	200	250	304	342
1082	141	197	252	309	357
1083	155	211	263	321	363
1084	167	230	290	349	398
1085	132	181	229	275	314
MEAN	148	204	257	311	355
S.D.	13.8	18.5	22.3	26.9	30.9
N	5	5	5	5	5

TABLE G

GASOLINE TBA VAPOR CONDENSATE: A 13-WEEK WHOLE-BODY INHALATION TOXICITY STUDY IN RATS WITH NEUROTOXICITY ASSESSMENTS AND 4-WEEK IN VIVO GENOTOXICITY AND IMMUNOTOXICITY ASSESSMENTS

INDIVIDUAL BODY WEIGHTS (GRAMS)

MALES GROUP II 2000 MG/M3

	DAY OF STUDY				
ANIMAL#	-3	4	11	18	25
2071	132	187	240	291	331
2072	163	219	275	328	376
2073	156	212	271	322	369
2074	142	203	257	307	341
2075	140	203	250	295	328
MEAN	147	205	259	309	349
S.D.	12.5	11.9	14.4	16.2	22.2
N	5	5	5	5	5

TABLE G

GASOLINE TBA VAPOR CONDENSATE: A 13-WEEK WHOLE-BODY INHALATION TOXICITY STUDY IN RATS WITH NEUROTOXICITY ASSESSMENTS AND 4-WEEK IN VIVO GENOTOXICITY AND IMMUNOTOXICITY ASSESSMENTS

INDIVIDUAL BODY WEIGHTS (GRAMS)

MALES GROUP III 10000 MG/M3

	DAY OF STUDY				
ANIMAL#	-3	4	11	18	25
3071	140	194	238	293	329
3072	145	195	253	313	365
3073	132	183	236	288	330
3074	165	229	291	344	390
3075	142	198	245	298	336
MEAN	145	200	253	307	350
S.D.	12.2	17.3	22.5	22.4	26.8
N	5	5	5	5	5

TABLE G

GASOLINE TBA VAPOR CONDENSATE: A 13-WEEK WHOLE-BODY INHALATION TOXICITY STUDY IN RATS WITH NEUROTOXICITY ASSESSMENTS AND 4-WEEK IN VIVO GENOTOXICITY AND IMMUNOTOXICITY ASSESSMENTS

INDIVIDUAL BODY WEIGHTS (GRAMS)

MALES GROUP IV 20000 MG/M3

	DAY OF STUDY				
ANIMAL#	-3	4	11	18	25
4081	143	210	262	323	362
4082	138	186	233	275	312
4083	147	222	285	343	389
4084	162	225	289	350	390
4085	141	205	266	319	362
MEAN	146	210	267	322	363
S.D.	9.3	15.3	22.3	29.2	31.7
N	5	5	5	5	5

TABLE G

GASOLINE TBA VAPOR CONDENSATE: A 13-WEEK WHOLE-BODY INHALATION TOXICITY STUDY IN RATS WITH NEUROTOXICITY ASSESSMENTS AND 4-WEEK IN VIVO GENOTOXICITY AND IMMUNOTOXICITY ASSESSMENTS

INDIVIDUAL BODY WEIGHTS (GRAMS)

MALES GROUP VI MICRO+CONTROL

	DAY OF STUDY				
ANIMAL#	-3	4	11	18	25
6051	139	199	253	300	336
6052	145	207	266	325	371
6053	157	218	273	344	395
6054	157	223	279	328	362
6055	136	200	258	314	358
MEAN	147	209	266	322	364
S.D.	9.8	10.6	10.9	16.4	21.4
N	5	5	5	5	5

TABLE G

GASOLINE TBA VAPOR CONDENSATE: A 13-WEEK WHOLE-BODY INHALATION TOXICITY STUDY IN RATS WITH NEUROTOXICITY ASSESSMENTS AND 4-WEEK IN VIVO GENOTOXICITY AND IMMUNOTOXICITY ASSESSMENTS

INDIVIDUAL BODY WEIGHTS (GRAMS)

FEMALES GROUP I 0 MG/M3

	DAY OF STUDY				
ANIMAL#	-3	4	11	18	25
1591	140	181	208	227	256
1592	131	164	214	246	254
1593	133	162	183	212	231
1594	126	149	197	221	242
1595	118	149	170	182	200
MEAN	129	161	194	218	237
S.D.	8.2	13.3	18.1	23.6	22.9
N	5	5	5	5	5

TABLE G

GASOLINE TBA VAPOR CONDENSATE: A 13-WEEK WHOLE-BODY INHALATION TOXICITY STUDY IN RATS WITH NEUROTOXICITY ASSESSMENTS AND 4-WEEK IN VIVO GENOTOXICITY AND IMMUNOTOXICITY ASSESSMENTS

INDIVIDUAL BODY WEIGHTS (GRAMS)

FEMALES GROUP II 2000 MG/M3

	DAY OF STUDY				
ANIMAL#	-3	4	11	18	25
2581	133	159	184	202	215
2582	139	162	193	212	222
2583	117	140	158	182	194
2584	126	161	186	215	226
2585	127	168	197	232	255
MEAN	128	158	184	208	222
S.D.	8.4	10.6	15.1	18.3	22.0
N	5	5	5	5	5

TABLE G

GASOLINE TBA VAPOR CONDENSATE: A 13-WEEK WHOLE-BODY INHALATION TOXICITY STUDY IN RATS WITH NEUROTOXICITY ASSESSMENTS AND 4-WEEK IN VIVO GENOTOXICITY AND IMMUNOTOXICITY ASSESSMENTS

INDIVIDUAL BODY WEIGHTS (GRAMS)

FEMALES GROUP III 10000 MG/M3

	DAY OF STUDY				
ANIMAL#	-3	4	11	18	25
3581	131	169	200	219	241
3582	127	161	188	197	221
3583	135	181	212	270	258
3584	124	153	188	208	222
3585	117	169	180	220	235
MEAN	127	167	193	223	235
S.D.	6.6	10.8	12.7	28.0	15.0
N	5	5	5	5	5

TABLE G

GASOLINE TBA VAPOR CONDENSATE: A 13-WEEK WHOLE-BODY INHALATION TOXICITY STUDY IN RATS WITH NEUROTOXICITY ASSESSMENTS AND 4-WEEK IN VIVO GENOTOXICITY AND IMMUNOTOXICITY ASSESSMENTS

INDIVIDUAL BODY WEIGHTS (GRAMS)

FEMALES GROUP IV 20000 MG/M3

	DAY OF STUDY				
ANIMAL#	-3	4	11	18	25
4591	132	165	193	224	241
4592	127	152	179	204	225
4593	136	173	195	227	250
4594	123	161	180	212	230
4595	124	162	194	227	231
MEAN	128	163	188	219	235
S.D.	5.5	7.8	8.0	10.3	10.2
N	5	5	5	5	5

TABLE G

GASOLINE TBA VAPOR CONDENSATE: A 13-WEEK WHOLE-BODY INHALATION TOXICITY STUDY IN RATS WITH NEUROTOXICITY ASSESSMENTS AND 4-WEEK IN VIVO GENOTOXICITY AND IMMUNOTOXICITY ASSESSMENTS

INDIVIDUAL BODY WEIGHTS (GRAMS)

FEMALES GROUP VI MICRO+CONTROL

	DAY OF STUDY				
ANIMAL#	-3	4	11	18	25
6561	127	160	186	208	222
6562	136	174	194	225	248
6563	119	162	197	226	245
6564	134	173	200	218	242
6565	124	156	183	212	233
MEAN	128	165	192	218	238
S.D.	6.9	8.1	7.1	7.8	10.7
N	5	5	5	5	5

TABLE H

GASOLINE TBA VAPOR CONDENSATE: A 13-WEEK WHOLE-BODY INHALATION TOXICITY STUDY IN RATS WITH NEUROTOXICITY ASSESSMENTS AND 4-WEEK IN VIVO GENOTOXICITY AND IMMUNOTOXICITY ASSESSMENTS

INDIVIDUAL BODY WEIGHT CHANGE FROM BASELINE (GRAMS)

MALES GROUP I 0 MG/M3

	DAY OF STUDY			
ANIMAL#	-3-4	-3-11	-3-18	-3-25
1081	56	107	161	198
1082	55	111	167	215
1083	55	108	165	207
1084	63	123	182	231
1085	49	98	143	182
MEAN	56	109	164	207
S.D.	5.0	9.1	13.8	18.3
N	5	5	5	5

TABLE H

GASOLINE TBA VAPOR CONDENSATE: A 13-WEEK WHOLE-BODY INHALATION TOXICITY STUDY IN RATS WITH NEUROTOXICITY ASSESSMENTS AND 4-WEEK IN VIVO GENOTOXICITY AND IMMUNOTOXICITY ASSESSMENTS

INDIVIDUAL BODY WEIGHT CHANGE FROM BASELINE (GRAMS)

MALES GROUP II 2000 MG/M3

	DAY OF STUDY			
ANIMAL#	-3-4	-3-11	-3-18	-3-25
2071	55	108	159	199
2072	56	112	165	213
2073	56	115	166	213
2074	61	116	166	200
2075	63	109	155	187
MEAN	58	112	162	202
S.D.	3.5	3.3	4.9	11.0
N	5	5	5	5

TABLE H

GASOLINE TBA VAPOR CONDENSATE: A 13-WEEK WHOLE-BODY INHALATION TOXICITY STUDY IN RATS WITH NEUROTOXICITY ASSESSMENTS AND 4-WEEK IN VIVO GENOTOXICITY AND IMMUNOTOXICITY ASSESSMENTS

INDIVIDUAL BODY WEIGHT CHANGE FROM BASELINE (GRAMS)

MALES GROUP III 10000 MG/M3

	DAY OF STUDY			
ANIMAL#	-3-4	-3-11	-3-18	-3-25
3071	54	99	153	189
3072	50	108	168	220
3073	51	104	156	198
3074	64	126	179	225
3075	56	103	156	193
MEAN	55	108	162	205
S.D.	5.6	10.7	10.8	16.2
N	5	5	5	5

TABLE H

GASOLINE TBA VAPOR CONDENSATE: A 13-WEEK WHOLE-BODY INHALATION TOXICITY STUDY IN RATS WITH NEUROTOXICITY ASSESSMENTS AND 4-WEEK IN VIVO GENOTOXICITY AND IMMUNOTOXICITY ASSESSMENTS

INDIVIDUAL BODY WEIGHT CHANGE FROM BASELINE (GRAMS)

MALES GROUP IV 20000 MG/M3

	DAY OF STUDY			
ANIMAL#	-3-4	-3-11	-3-18	-3-25
4081	67	119	180	219
4082	48	95	137	174
4083	75	138	196	242
4084	63	127	188	229
4085	64	124	178	221
MEAN	64	121	176	217
S.D.	9.7	15.9	22.7	25.5
N	5	5	5	5

TABLE H

GASOLINE TBA VAPOR CONDENSATE: A 13-WEEK WHOLE-BODY INHALATION TOXICITY STUDY IN RATS WITH NEUROTOXICITY ASSESSMENTS AND 4-WEEK IN VIVO GENOTOXICITY AND IMMUNOTOXICITY ASSESSMENTS

INDIVIDUAL BODY WEIGHT CHANGE FROM BASELINE (GRAMS)

MALES GROUP VI MICRO+CONTROL

	DAY OF STUDY			
ANIMAL#	-3-4	-3-11	-3-18	-3-25
6051	60	114	161	197
6052	62	121	180	225
6053	61	116	187	238
6054	66	122	171	205
6055	63	121	177	222
MEAN	62	119	175	218
S.D.	2.2	3.8	9.7	16.6
N	5	5	5	5

TABLE H

GASOLINE TBA VAPOR CONDENSATE: A 13-WEEK WHOLE-BODY INHALATION TOXICITY STUDY IN RATS WITH NEUROTOXICITY ASSESSMENTS AND 4-WEEK IN VIVO GENOTOXICITY AND IMMUNOTOXICITY ASSESSMENTS

INDIVIDUAL BODY WEIGHT CHANGE FROM BASELINE (GRAMS)

FEMALES GROUP I 0 MG/M3

	DAY OF STUDY			
ANIMAL#	-3-4	-3-11	-3-18	-3-25
1591	41	68	87	117
1592	34	83	116	124
1593	29	50	79	98
1594	23	71	94	115
1595	31	52	64	82
MEAN	32	65	88	107
S.D.	6.7	13.9	19.1	16.8
N	5	5	5	5

TABLE H

GASOLINE TBA VAPOR CONDENSATE: A 13-WEEK WHOLE-BODY INHALATION TOXICITY STUDY IN RATS WITH NEUROTOXICITY ASSESSMENTS AND 4-WEEK IN VIVO GENOTOXICITY AND IMMUNOTOXICITY ASSESSMENTS

INDIVIDUAL BODY WEIGHT CHANGE FROM BASELINE (GRAMS)

FEMALES GROUP II 2000 MG/M3

	DAY OF STUDY			
ANIMAL#	-3-4	-3-11	-3-18	-3-25
2581	26	52	69	82
2582	23	54	73	83
2583	24	42	65	78
2584	35	60	88	100
2585	41	70	105	128
MEAN	30	56	80	94
S.D.	8.0	10.3	16.2	20.8
N	5	5	5	5

TABLE H

GASOLINE TBA VAPOR CONDENSATE: A 13-WEEK WHOLE-BODY INHALATION TOXICITY STUDY IN RATS WITH NEUROTOXICITY ASSESSMENTS AND 4-WEEK IN VIVO GENOTOXICITY AND IMMUNOTOXICITY ASSESSMENTS

INDIVIDUAL BODY WEIGHT CHANGE FROM BASELINE (GRAMS)

FEMALES GROUP III 10000 MG/M3

	DAY OF STUDY			
ANIMAL#	-3-4	-3-11	-3-18	-3-25
3581	39	69	88	110
3582	34	61	70	94
3583	46	78	135	123
3584	28	64	84	98
3585	52	63	102	118
MEAN	40	67	96	109
S.D.	9.5	6.8	24.8	12.3
N	5	5	5	5

TABLE H

GASOLINE TBA VAPOR CONDENSATE: A 13-WEEK WHOLE-BODY INHALATION TOXICITY STUDY IN RATS WITH NEUROTOXICITY ASSESSMENTS AND 4-WEEK IN VIVO GENOTOXICITY AND IMMUNOTOXICITY ASSESSMENTS

INDIVIDUAL BODY WEIGHT CHANGE FROM BASELINE (GRAMS)

FEMALES GROUP IV 20000 MG/M3

	DAY OF STUDY			
ANIMAL#	-3-4	-3-11	-3-18	-3-25
4591	33	61	92	109
4592	25	52	77	98
4593	37	59	91	115
4594	38	57	89	106
4595	39	70	103	107
MEAN	34	60	90	107
S.D.	5.8	6.8	9.3	6.0
N	5	5	5	5

TABLE H

GASOLINE TBA VAPOR CONDENSATE: A 13-WEEK WHOLE-BODY INHALATION TOXICITY STUDY IN RATS WITH NEUROTOXICITY ASSESSMENTS AND 4-WEEK IN VIVO GENOTOXICITY AND IMMUNOTOXICITY ASSESSMENTS

INDIVIDUAL BODY WEIGHT CHANGE FROM BASELINE (GRAMS)

FEMALES GROUP VI MICRO+CONTROL

	DAY OF STUDY			
ANIMAL#	-3-4	-3-11	-3-18	-3-25
6561	33	58	81	94
6562	38	58	89	112
6563	43	78	107	126
6564	39	66	85	108
6565	32	59	88	109
MEAN	37	64	90	110
S.D.	4.7	8.3	10.0	11.2
N	5	5	5	5

TABLE I

GASOLINE TBA VAPOR CONDENSATE: A 13-WEEK WHOLE-BODY INHALATION TOXICITY STUDY IN RATS WITH NEUROTOXICITY ASSESSMENTS AND 4-WEEK IN VIVO GENOTOXICITY AND IMMUNOTOXICITY ASSESSMENTS

INDIVIDUAL FEED CONSUMPTION VALUES (GRAMS/KG/DAY)

MALES GROUP I 0 MG/M3

	DAY OF STUDY			
ANIMAL#	4	11	18	25
1081	125	104	96	82
1082	131	111	102	91
1083	122	103	92	84
1084	124	105	94	83
1085	130	107	100	87
MEAN	126	106	97	85
S.D.	3.8	3.1	4.0	3.8
N	5	5	5	5

TABLE I

GASOLINE TBA VAPOR CONDENSATE: A 13-WEEK WHOLE-BODY INHALATION TOXICITY STUDY IN RATS WITH NEUROTOXICITY ASSESSMENTS AND 4-WEEK IN VIVO GENOTOXICITY AND IMMUNOTOXICITY ASSESSMENTS

INDIVIDUAL FEED CONSUMPTION VALUES (GRAMS/KG/DAY)

MALES GROUP II 2000 MG/M3

	DAY OF STUDY			
ANIMAL#	4	11	18	25
2071	132	110	96	87
2072	112	108	97	88
2073	122	111	97	86
2074	134	115	104	95
2075	128	108	95	87
MEAN	126	110	98	88
S.D.	8.8	3.1	3.8	3.7
N	5	5	5	5

TABLE I

GASOLINE TBA VAPOR CONDENSATE: A 13-WEEK WHOLE-BODY INHALATION TOXICITY STUDY IN RATS WITH NEUROTOXICITY ASSESSMENTS AND 4-WEEK IN VIVO GENOTOXICITY AND IMMUNOTOXICITY ASSESSMENTS

INDIVIDUAL FEED CONSUMPTION VALUES (GRAMS/KG/DAY)

MALES GROUP III 10000 MG/M3

	DAY OF STUDY			
ANIMAL#	4	11	18	25
3071	125	104	SF	86
3072	120	102	93	82
3073	125	105	95	87
3074	122	104	SF	78
3075	128	97	96	82
MEAN	124	102	95	83
S.D.	2.9	3.2	1.8	3.7
N	5	5	3	5

SF=Spilled Feeder

TABLE I

GASOLINE TBA VAPOR CONDENSATE: A 13-WEEK WHOLE-BODY INHALATION TOXICITY STUDY IN RATS WITH NEUROTOXICITY ASSESSMENTS AND 4-WEEK IN VIVO GENOTOXICITY AND IMMUNOTOXICITY ASSESSMENTS

INDIVIDUAL FEED CONSUMPTION VALUES (GRAMS/KG/DAY)

MALES GROUP IV 20000 MG/M3

	DAY OF STUDY			
ANIMAL#	4	11	18	25
4081	136	105	95	82
4082	120	102	91	84
4083	136	111	92	81
4084	120	104	93	83
4085	131	112	94	86
MEAN	128	107	93	83
S.D.	8.1	4.4	1.5	1.8
N	5	5	5	5

TABLE I

GASOLINE TBA VAPOR CONDENSATE: A 13-WEEK WHOLE-BODY INHALATION TOXICITY STUDY IN RATS WITH NEUROTOXICITY ASSESSMENTS AND 4-WEEK IN VIVO GENOTOXICITY AND IMMUNOTOXICITY ASSESSMENTS

INDIVIDUAL FEED CONSUMPTION VALUES (GRAMS/KG/DAY)

MALES GROUP VI MICRO+CONTROL

	DAY OF STUDY			
ANIMAL#	4	11	18	25
6051	124	102	86	78
6052	129	110	95	89
6053	135	107	97	86
6054	135	113	97	84
6055	137	115	101	93
MEAN	132	109	95	86
S.D.	5.4	5.3	5.7	5.6
N	5	5	5	5

TABLE I

GASOLINE TBA VAPOR CONDENSATE: A 13-WEEK WHOLE-BODY INHALATION TOXICITY STUDY IN RATS WITH NEUROTOXICITY ASSESSMENTS AND 4-WEEK IN VIVO GENOTOXICITY AND IMMUNOTOXICITY ASSESSMENTS

INDIVIDUAL FEED CONSUMPTION VALUES (GRAMS/KG/DAY)

FEMALES GROUP I 0 MG/M3

	DAY OF STUDY			
ANIMAL#	4	11	18	25
1591	151	94	90	86
1592	132	111	92	89
1593	118	98	95	85
1594	115	110	94	90
1595	125	109	97	95
MEAN	128	105	93	89
S.D.	14.3	7.7	2.7	3.9
N	5	5	5	5

TABLE I

GASOLINE TBA VAPOR CONDENSATE: A 13-WEEK WHOLE-BODY INHALATION TOXICITY STUDY IN RATS WITH NEUROTOXICITY ASSESSMENTS AND 4-WEEK IN VIVO GENOTOXICITY AND IMMUNOTOXICITY ASSESSMENTS

INDIVIDUAL FEED CONSUMPTION VALUES (GRAMS/KG/DAY)

FEMALES GROUP II 2000 MG/M3

	DAY OF STUDY			
ANIMAL#	4	11	18	25
2581	116	97	91	84
2582	114	110	98	94
2583	140	111	103	98
2584	129	112	103	98
2585	128	111	107	94
MEAN	125	108	100	94
S.D.	10.3	6.4	6.3	5.6
N	5	5	5	5

TABLE I

GASOLINE TBA VAPOR CONDENSATE: A 13-WEEK WHOLE-BODY INHALATION TOXICITY STUDY IN RATS WITH NEUROTOXICITY ASSESSMENTS AND 4-WEEK IN VIVO GENOTOXICITY AND IMMUNOTOXICITY ASSESSMENTS

INDIVIDUAL FEED CONSUMPTION VALUES (GRAMS/KG/DAY)

FEMALES GROUP III 10000 MG/M3

	DAY OF STUDY			
ANIMAL#	4	11	18	25
3581	122	105	97	91
3582	118	106	98	97
3583	130	105	110	88
3584	SF	145	SF	92
3585	138	108	103	93
MEAN	127	114	102	92
S.D.	8.8	17.6	6.1	3.4
N	4	5	4	5

SF=Spilled Feeder

TABLE I

GASOLINE TBA VAPOR CONDENSATE: A 13-WEEK WHOLE-BODY INHALATION TOXICITY STUDY IN RATS WITH NEUROTOXICITY ASSESSMENTS AND 4-WEEK IN VIVO GENOTOXICITY AND IMMUNOTOXICITY ASSESSMENTS

INDIVIDUAL FEED CONSUMPTION VALUES (GRAMS/KG/DAY)

FEMALES GROUP IV 20000 MG/M3

	DAY OF STUDY			
ANIMAL#	4	11	18	25
4591	119	104	92	88
4592	119	101	94	89
4593	124	107	101	93
4594	123	103	101	95
4595	127	111	104	93
MEAN	122	105	99	92
S.D.	3.3	3.9	5.0	2.8
N	5	5	5	5

TABLE I

GASOLINE TBA VAPOR CONDENSATE: A 13-WEEK WHOLE-BODY INHALATION TOXICITY STUDY IN RATS WITH NEUROTOXICITY ASSESSMENTS AND 4-WEEK IN VIVO GENOTOXICITY AND IMMUNOTOXICITY ASSESSMENTS

INDIVIDUAL FEED CONSUMPTION VALUES (GRAMS/KG/DAY)

FEMALES GROUP VI MICRO+CONTROL

	DAY OF STUDY			
ANIMAL#	4	11	18	25
6561	116	102	92	85
6562	120	105	92	89
6563	124	112	97	90
6564	120	106	95	94
6565	118	103	94	87
MEAN	120	106	94	89
S.D.	3.1	4.0	2.2	3.4
N	5	5	5	5

TABLE J

GASOLINE TBA VAPOR CONDENSATE: A 13-WEEK WHOLE-BODY INHALATION TOXICITY STUDY IN RATS WITH NEUROTOXICITY ASSESSMENTS AND 4-WEEK IN VIVO GENOTOXICITY AND IMMUNOTOXICITY ASSESSMENTS

ANIMAL TERMINATION HISTORY

MALES GROUP I 0 MG/M3

ANIMAL#	TYPE OF DEATH	DATE OF DEATH	WEEK OF STUDY	STUDY DAY
1081	TERMINAL SACRIFICE	22-AUG-02	3	27
1082	TERMINAL SACRIFICE	22-AUG-02	3	27
1083	TERMINAL SACRIFICE	22-AUG-02	3	27
1084	TERMINAL SACRIFICE	22-AUG-02	3	27
1085	TERMINAL SACRIFICE	22-AUG-02	3	27

TABLE J

GASOLINE TBA VAPOR CONDENSATE: A 13-WEEK WHOLE-BODY INHALATION TOXICITY STUDY IN RATS WITH NEUROTOXICITY ASSESSMENTS AND 4-WEEK IN VIVO GENOTOXICITY AND IMMUNOTOXICITY ASSESSMENTS

ANIMAL TERMINATION HISTORY

MALES GROUP II 2000 MG/M3

ANIMAL#	TYPE OF DEATH	DATE OF DEATH	WEEK OF STUDY	STUDY DAY
2071	TERMINAL SACRIFICE	22-AUG-02	3	27
2072	TERMINAL SACRIFICE	22-AUG-02	3	27
2073	TERMINAL SACRIFICE	22-AUG-02	3	27
2074	TERMINAL SACRIFICE	22-AUG-02	3	27
2075	TERMINAL SACRIFICE	22-AUG-02	3	27

TABLE J

GASOLINE TBA VAPOR CONDENSATE: A 13-WEEK WHOLE-BODY INHALATION TOXICITY STUDY IN RATS WITH NEUROTOXICITY ASSESSMENTS AND 4-WEEK IN VIVO GENOTOXICITY AND IMMUNOTOXICITY ASSESSMENTS

ANIMAL TERMINATION HISTORY

MALES GROUP III 10000 MG/M3

ANIMAL#	TYPE OF DEATH	DATE OF DEATH	WEEK OF STUDY	STUDY DAY
3071	TERMINAL SACRIFICE	22-AUG-02	3	27
3072	TERMINAL SACRIFICE	22-AUG-02	3	27
3073	TERMINAL SACRIFICE	22-AUG-02	3	27
3074	TERMINAL SACRIFICE	22-AUG-02	3	27
3075	TERMINAL SACRIFICE	22-AUG-02	3	27

TABLE J

GASOLINE TBA VAPOR CONDENSATE: A 13-WEEK WHOLE-BODY INHALATION TOXICITY STUDY IN RATS WITH NEUROTOXICITY ASSESSMENTS AND 4-WEEK IN VIVO GENOTOXICITY AND IMMUNOTOXICITY ASSESSMENTS

ANIMAL TERMINATION HISTORY

MALES GROUP IV 20000 MG/M3

ANIMAL#	TYPE OF DEATH	DATE OF DEATH	WEEK OF STUDY	STUDY DAY
4081	TERMINAL SACRIFICE	22-AUG-02	3	27
4082	TERMINAL SACRIFICE	22-AUG-02	3	27
4083	TERMINAL SACRIFICE	22-AUG-02	3	27
4084	TERMINAL SACRIFICE	22-AUG-02	3	27
4085	TERMINAL SACRIFICE	22-AUG-02	3	27

TABLE J

GASOLINE TBA VAPOR CONDENSATE: A 13-WEEK WHOLE-BODY INHALATION TOXICITY STUDY IN RATS WITH NEUROTOXICITY ASSESSMENTS AND 4-WEEK IN VIVO GENOTOXICITY AND IMMUNOTOXICITY ASSESSMENTS

ANIMAL TERMINATION HISTORY

MALES GROUP VI MICRO+CONTROL

ANIMAL#	TYPE OF DEATH	DATE OF DEATH	WEEK OF STUDY	STUDY DAY
6051	TERMINAL SACRIFICE	22-AUG-02	3	27
6052	TERMINAL SACRIFICE	22-AUG-02	3	27
6053	TERMINAL SACRIFICE	22-AUG-02	3	27
6054	TERMINAL SACRIFICE	22-AUG-02	3	27
6055	TERMINAL SACRIFICE	22-AUG-02	3	27

TABLE J

GASOLINE TBA VAPOR CONDENSATE: A 13-WEEK WHOLE-BODY INHALATION TOXICITY STUDY IN RATS WITH NEUROTOXICITY ASSESSMENTS AND 4-WEEK IN VIVO GENOTOXICITY AND IMMUNOTOXICITY ASSESSMENTS

ANIMAL TERMINATION HISTORY

FEMALES GROUP I 0 MG/M3

ANIMAL#	TYPE OF DEATH	DATE OF DEATH	WEEK OF STUDY	STUDY DAY
1591	TERMINAL SACRIFICE	22-AUG-02	3	27
1592	TERMINAL SACRIFICE	22-AUG-02	3	27
1593	TERMINAL SACRIFICE	22-AUG-02	3	27
1594	TERMINAL SACRIFICE	22-AUG-02	3	27
1595	TERMINAL SACRIFICE	22-AUG-02	3	27

TABLE J

GASOLINE TBA VAPOR CONDENSATE: A 13-WEEK WHOLE-BODY INHALATION TOXICITY STUDY IN RATS WITH NEUROTOXICITY ASSESSMENTS AND 4-WEEK IN VIVO GENOTOXICITY AND IMMUNOTOXICITY ASSESSMENTS

ANIMAL TERMINATION HISTORY

FEMALES GROUP II 2000 MG/M3

ANIMAL#	TYPE OF DEATH	DATE OF DEATH	WEEK OF STUDY	STUDY DAY
2581	TERMINAL SACRIFICE	22-AUG-02	3	27
2582	TERMINAL SACRIFICE	22-AUG-02	3	27
2583	TERMINAL SACRIFICE	22-AUG-02	3	27
2584	TERMINAL SACRIFICE	22-AUG-02	3	27
2585	TERMINAL SACRIFICE	22-AUG-02	3	27

TABLE J

GASOLINE TBA VAPOR CONDENSATE: A 13-WEEK WHOLE-BODY INHALATION TOXICITY STUDY IN RATS WITH NEUROTOXICITY ASSESSMENTS AND 4-WEEK IN VIVO GENOTOXICITY AND IMMUNOTOXICITY ASSESSMENTS

ANIMAL TERMINATION HISTORY

FEMALES GROUP III 10000 MG/M3

ANIMAL#	TYPE OF DEATH	DATE OF DEATH	WEEK OF STUDY	STUDY DAY
3581	TERMINAL SACRIFICE	22-AUG-02	3	27
3582	TERMINAL SACRIFICE	22-AUG-02	3	27
3583	TERMINAL SACRIFICE	22-AUG-02	3	27
3584	TERMINAL SACRIFICE	22-AUG-02	3	27
3585	TERMINAL SACRIFICE	22-AUG-02	3	27

TABLE J

GASOLINE TBA VAPOR CONDENSATE: A 13-WEEK WHOLE-BODY INHALATION TOXICITY STUDY IN RATS WITH NEUROTOXICITY ASSESSMENTS AND 4-WEEK IN VIVO GENOTOXICITY AND IMMUNOTOXICITY ASSESSMENTS

ANIMAL TERMINATION HISTORY

FEMALES GROUP IV 20000 MG/M3

ANIMAL#	TYPE OF DEATH	DATE OF DEATH	WEEK OF STUDY	STUDY DAY
4591	TERMINAL SACRIFICE	22-AUG-02	3	27
4592	TERMINAL SACRIFICE	22-AUG-02	3	27
4593	TERMINAL SACRIFICE	22-AUG-02	3	27
4594	TERMINAL SACRIFICE	22-AUG-02	3	27
4595	TERMINAL SACRIFICE	22-AUG-02	3	27

TABLE J

GASOLINE TBA VAPOR CONDENSATE: A 13-WEEK WHOLE-BODY INHALATION TOXICITY STUDY IN RATS WITH NEUROTOXICITY ASSESSMENTS AND 4-WEEK IN VIVO GENOTOXICITY AND IMMUNOTOXICITY ASSESSMENTS

ANIMAL TERMINATION HISTORY

FEMALES GROUP VI MICRO+CONTROL

ANIMAL#	TYPE OF DEATH	DATE OF DEATH	WEEK OF STUDY	STUDY DAY
6561	TERMINAL SACRIFICE	22-AUG-02	3	27
6562	TERMINAL SACRIFICE	22-AUG-02	3	27
6563	TERMINAL SACRIFICE	22-AUG-02	3	27
6564	TERMINAL SACRIFICE	22-AUG-02	3	27
6565	TERMINAL SACRIFICE	22-AUG-02	3	27