

試験責任者の署名

表題 : 4-メチルベンズアルデヒドにおける 90 日間反復経口投与毒性試験

試験番号 : [REDACTED]

[REDACTED]
試験責任者

年 月 日



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表題

4-メチルベンズアルデヒドのラットにおける 90 日間反復経口投与毒性試験

試験番号

■■■■■

試験目的

4-メチルベンズアルデヒドを雄雌ラットに 90 日間反復経口投与して、その毒性発現の有無およびその概要について検討した。

試験実施基準および試験法ガイドライン

試験実施基準 (GLP) : 「医薬品の安全性に関する非臨床試験の実施の基準に関する省令」
(平成 9 年 3 月 26 日厚生省令第 21 号)

「医薬品の安全性に関する非臨床試験の実施の基準に関する省令の一部を改正する省令」(平成 20 年 6 月 13 日 厚生労働省令第 114 号)

試験法ガイドライン : 「食品添加物の指定及び使用基準改正に関する指針」(平成 8 年 3 月 22 日 衛化第 29 号生活衛生局長通知)

動物愛護

法規および基準等 : 「動物の愛護及び管理に関する法律」(昭和 48 年 10 月 1 日 法律第 105 号, 最終改正 平成 26 年 5 月 30 日 法律第 46 号)

「実験動物の飼養及び保管並びに苦痛の軽減に関する基準」(平成 18 年 4 月 28 日 環境省告示第 88 号, 最終改正 平成 25 年 8 月 30 日 環境省告示第 84 号)

「動物実験に関する指針」(昭和 62 年 5 月 22 日承認 社団法人日本実験動物学会)

動物実験倫理 : 本試験は、動物実験の必要性および苦痛の軽減等について試験施設の動物実験倫理委員会により審議され、運営管理者の承認を得ており、試験施設の動物実験倫理規程に準拠して実施した。

試験委託者

所在地 : [Redacted]
担当者 : 安全性生物試験研究センター [Redacted]
[Redacted]
代表者 [Redacted]

試験施設

名称 : [Redacted]
所在地 : [Redacted]
運営管理者 : [Redacted]

試験責任者

氏名 : [Redacted]
所属 : [Redacted]

試験従事者およびその業務分担

動物管理 : [Redacted]
検疫・馴化 : [Redacted]
投与・観察・測定 : [Redacted]
臨床検査 : [Redacted]
病理検査 : [Redacted]

試験日程

試験開始日 : [Redacted]
動物受入 : [Redacted]
群分け : [Redacted]
実験開始 : [Redacted]

投与開始 : [Redacted]
投与終了 : [Redacted]
剖検 : [Redacted]
実験終了日 : [Redacted]
試験終了日 : [Redacted]

1 要約

4-メチルベンズアルデヒドを雌雄ラットに 90 日間反復経口投与した際に生じる毒性変化の有無及びその概要を検討した。

投与用量は、0, 100, 300 および 1000 mg/kg/day に設定し、各群には雌雄各 10 匹の Crl:CD(SD)ラットを供した。投与期間中、すべての動物について生死の確認、一般状態観察を行い、体重及び摂餌量を測定した。また、眼科学的検査を投与開始前および投与 13 週、尿検査、血液学的検査及び血液化学的検査を投与 13 週に実施した。90 日間の投与終了後、動物を安楽死させ、剖検、器官重量及び病理組織学的検査に供した。

1000 mg/kg 投与群では、雌雄ともに振戦あるいは間代性痙攣が散見され、体重増加抑制および摂餌量の増加が認められた。

尿検査では、1000 mg/kg 投与群において雌雄ともに尿蛋白の低値、ナトリウム、尿量の高値がみられ、雄では尿 pH の低値が認められた。

1000 mg/kg 投与群において、血液化学的検査では雌雄ともに AST および ALP の高値が認められた。AST については、雌雄ともに肝臓重量の増加が認められたことから、被験物質投与による肝臓への影響が考えられた。ALP は、病理組織学的検査で胸骨および大腿骨に骨梁増加が認められていることから、この変化に関連する可能性が考えられた。

1000 mg/kg 投与群において、剖検では、雄の精巣上体尾部に黄白色巣が認められ、組織学的変化として、精巣上体に篩状変化、精子減少、精子肉芽腫が認められた。病理組織学的検査では、雌雄ともに顎下腺に顆粒管の分泌顆粒の減少、胃に前胃の過角化 (雄は境界縁の過角化も含む)、腎臓に腎盂粘膜の空胞化、膀胱に尿路上皮の空胞化、坐骨神経に限局性軸索変性、骨格筋に限局性の筋変性、胸骨および大腿骨に骨梁増加が認められた。胃の過角化、膀胱 (および腎盂) の尿路上皮の空胞化は化学物質等の刺激に対する反応性の変化として知られており、被験物質に長時間触れることから認められた変化である可能性が考えられた。

1000 mg/kg 投与群の雌の 1 例 (動物番号: 50458) において、肺に暗赤色巣、下顎リンパ節と腸間膜リンパ節に赤色化が認められ、病理組織学的検査では、肺の限局性出血、下顎リンパ節と腸間膜リンパ節はともに血液吸収が認められた。これらの変化は 1 例のみに認められた変化であり、その他では関連性のある変化は認められなかったが、被験物質投与との関連は否定できなかった。

300 mg/kg 以下の投与群では、雌雄ともに被験物質投与に関連すると考えられる変化はなかった。

以上の結果から、本試験条件下では雌雄ともに 4-メチルベンズアルデヒドの 1000 mg/kg 投与群では、一般状態の変化、体重増加抑制、摂餌量増加、尿量増加、尿中ナトリウムの高値、尿蛋白および尿 pH の低値、AST および ALP の高値、肝重量の増加、精巣上体、顎下

腺，胃，膀胱，坐骨神経，骨格筋，胸骨ならびに大腿骨における病理組織学的変化等が，被験物質投与に関連した変化として認められた．4-メチルベンズアルデヒドの無毒性量は雌雄ともに 300 mg/kg と考えられた．

2 緒言

4-メチルベンズアルデヒドを雌雄ラットに 90 日間反復経口投与した際に生じる毒性変化の有無及びその概要を検討した．投与用量は，0，100，300 および 1000 mg/kg に設定し，各群には雌雄各 10 匹のラットを供した．投与期間中，すべての動物について生死の確認，一般状態観察を行い，体重及び摂餌量を測定した．また，眼科学的検査を投与開始前および投与 13 週，尿検査，血液学的検査及び血液化学的検査を投与 13 週に実施した．90 日間の投与終了後，動物を安楽死させ，剖検，器官重量及び病理組織学的検査に供した．

3 材料および方法

3.1 被験物質

名称	: 4-メチルベンズアルデヒド (4-methylbenzaldehyde)
別名	: p-トルアルデヒド (p-tolualdehyde)
CAS 番号	: 104-87-0
化学式	: C ₈ H ₈ O
分子量	: 120.14
物理化学的性質	: 形状；液体，色；無色 ~ 淡黄色透明，臭い；特有の香気を有する 融点；-6°C，沸点；205°C 水に不溶，エタノールに可溶
ロット番号	: ██████████
純度	: 98.2%以上
製造業者	: ██████████
被験物質管理責任者からの移管量	: 約 1500 g
被験物質使用量	: 1416.21 g
試験施設受領日	: ████████
安定性	: 使用するロットについて，実験開始前 (████████) および投与終了後 (██████) の被験物質の特性について赤外分光光度計を用いて株式会社日曹分析センターで分析した結果，IR スペクトルは一致しており，実験期間中の被験物質は安定であると判断した (Annex 1).

保存条件 : 冷蔵 (5.7~7.2°C), 気密, 遮光

保存場所および保存期間 : ██████████ ; ██████████ (試験施設受領) ~ ██████████
██████████ (最終回調製)

保存場所 : ██████████

サンプリング : 被験物質サンプリングとして, 約 5 g を採取し, 試験施設の ██████████
██████████ に保存した.

取扱上の注意 : ゴム手袋, マスクおよび保護メガネを着用した.

3.2 対照物質

名称 : トウモロコシ油

製造業者 : ナカライテスク

被験物質管理責任者からの移管量 : 500 g × 36 本

使用量 : 500 g × 35 本 (17286.98 g)

保存条件 : 室温. ただし, 投与液として分取した場合は, 遮光気密容器に入れ, 冷蔵で保存した.

保存場所 : ██████████

取扱上の注意 : 特になし. 全量使用した空き瓶は廃棄した. また, 調製に使用しなかった残余については, 被験物質管理責任者に移管した.

3.3 投与液の調製および化学分析

調製方法 : 投与量毎に被験物質を正確に秤量した. 所定の濃度となるように媒体を加えてメスアップし, スターラーを用いて溶解させた.

調製頻度 : 安定性が確認された期間に 1 回以上

保存条件 : 遮光気密容器に入れ, 冷蔵で保存した.

調製液の安定性 : 1 および 200 mg/mL の調製液について, 調製後および冷蔵保存 8 日 + 室温保存 6 時間の投与液中の被験物質濃度を株式会社日曹分析センターで分析した結果, 残存率は 1 mg/mL が 97.0%, 200 mg/mL が 97.9% であり, 安定であると判断した (Annex 1).

調製上の注意 : 調製の際にはマスク, ゴム手袋, 保護メガネ等を着用し, 吸入, 眼, 皮膚および衣類等との接触を避けた.

残余調製液の処置 : 焼却処分するために, 産業廃棄物として回収した.

3.4 試験系

種, 系統 : ラット, Cri:CD(SD)

微生物統御 : SPF

生産業者 : 日本チャールス・リバー株式会社

微生物モニタリング：動物生産業者よりデータを入手した。

動物選定理由：ラットは毒性試験等で通常用いられている動物種であり，当研究所での使用経験が豊富であることからこの系統を選定した。

受入動物数：雌雄各 44 匹

受入時週齢：雌雄とも 5 週齢

受領時体重範囲：雄 113 ~ 132 g，雌 112 ~ 133 g

投与開始時週齢：雌雄とも 6 週齢

投与開始時体重範囲：雄 189 ~ 217 g，雌 162 ~ 199 g

群数：雌雄各 4 群

各群動物数：雌雄各 10 匹

3.5 検疫および馴化

期間：検疫期間は受入日（検疫 1 日）から検疫 6 日までの期間。

馴化期間は検疫期間を含めた群分け日までの期間。

方法：一般状態を 1 日 1 回観察し，体重を受入時，検疫 6 日および群分け日に測定した。また，馴化期間中に眼科学的検査を実施した。

3.6 群分け

検疫および馴化期間中に実施した一般状態観察，体重測定および眼科学的検査の結果，雄 1 例では眼科学的検査に所見が認められたため，群分け前に除外した。群分けは，コンピュータシステム (MiTOX，三井造船システム技研株式会社) を使用し，群分け日（投与開始前日）の体重に基づいて体重層別化無作為抽出法により各群の平均体重が均一になるように行った。群分け時の使用動物の体重範囲は，雄で 183 ~ 206 g，雌で 162 ~ 194 g であり，平均体重（雄 199.5 g，雌 178.9 g）の $\pm 20\%$ 以内であった。群分けから外れた動物は投与開始日に試験から除外し，標準操作手順書に従って取り扱った。

3.7 動物およびケージの識別

動物：受入時に油性フェルトペンで尾部に印を付け，個体識別を行った。群分け後は耳介に動物番号を入墨し，個体識別を行った。

飼育ケージ：群分け前は性別毎に色分けしたラベルに試験 No.，識別 No.，性別，ケージ No. および種 / 系統を印字したラベルを各ケージの前面に標示した。

群分け後は性別毎に色分けしたラベルに試験 No.，動物 No.，性別，被験物質，用量（経路）および種 / 系統を印字したラベルを各ケージの前面に標示した。

3.8 動物飼育

3.8.1 飼育環境

飼育室番号 : ■■■■■
温度・湿度 : 22 ± 3°C (実測範囲 20 ~ 23°C), 50 ± 20% (実測範囲 39 ~ 52%)
換気回数 : 10 ~ 15 回/時間
照明時間 : 人工照明 12 時間 (8 : 00 ~ 20 : 00)

3.8.2 飼育器材および飼育方法

ケージの種類 : ブラケット式金属製金網床ケージ (260W × 380D × 180H, mm)
1 ケージあたりの収容動物数 : 検疫および馴化期間中は 2 匹以内, 群分け後は 1 匹とした。
ケージ交換 : 群分け時に 1 回実施し, その後は 2 週に 1 回の頻度で実施した。
受皿交換 : 週 2 回実施した。
給餌器交換 : 群分け時および投与 14 日に実施し, その後は 2 週間に 1 回の頻度で実施した。
自動給水装置の水抜き : 週 1 回実施した。
給水器交換 : 尿検査時にのみ使用した。
室内の清掃 : 1 日 1 回実施した。
室内の消毒 : 塩素系消毒薬およびヨウ素系消毒薬を 1 週間単位で交互に使用する清拭消毒を 1 日 1 回実施した。

3.8.3 飼料

種類・名称 : 固型飼料, CRF-1
製造業者 : オリエンタル酵母工業株式会社
給餌方法 : 金属製給餌器を用いて自由に摂取させた。
汚染物質等の確認 : 試験に悪影響を及ぼす恐れのある汚染物質等の有無を使用した各ロット (■■■■■) の飼料について分析した。分析はユーロフィン・フードアンドプロダクト・テストイング株式会社 (分析報告書 : No. ■■■■■, No. ■■■■■) および飼料製造業者 (分析試験報告書 : No. ■■■■■, No. ■■■■■) が行い, 分析データを飼料製造業者から入手した。分析項目と許容値は試験施設の標準操作手順書に準拠した。分析の結果, いずれの項目にも許容値を超える値は認められなかった。

3.8.4 飲料水

種類 : ■■■■■ 水道水

給水方法 : 自動給水装置あるいは給水器を用いて自由に摂取させた。

汚染物質検査 : 試験に悪影響を及ぼす恐れのある汚染物質等について、██████████
 ██████████ ██████████ ██████████ ██████████ ██████████ ██████████
 に当該飼育室と同系統配管の最末端 (██████████) から試料を採取して確認した。分析は日本衛生株式会社 (水質検査結果表 : No. ██████████, No. ██████████, No. ██████████) が行い、分析データを入手した。分析項目と許容値は試験施設の標準操作手順書に準拠した。分析の結果、いずれの項目にも許容値を超える値は認められなかった。

3.9 試験群の構成

3.9.1 投与量の設定

投与量 : 0 (対照), 100, 300 および 1000 mg/kg/day

設定理由 : 予備試験 (試験番号 ██████████) の結果 (用量 ; 100, 300 および 1000 mg/kg/day), 1000 mg/kg 投与においても重篤な毒性は認められなかった。したがって、本試験において強制投与で限界用量とされている 1000 mg/kg を高用量とし、以下公比約 3 で 300 および 100 mg/kg を中用量および低用量に設定した。

3.9.2 試験群の構成

試験群の構成と各群の動物番号は以下の通りとした。

試験群	投与量 (mg/kg)	濃度 (mg/mL)	投与容量 (mL/kg)	動物数 (動物番号)		識別
				雄	雌	
対照群	0	0	5.0	10 (10101~10110)	10 (50151~50160)	白
低用量群	100	20	5.0	10 (10201~10210)	10 (50251~50260)	緑
中用量群	300	60	5.0	10 (10301~10310)	10 (50351~50360)	青
高用量群	1000	200	5.0	10 (10401~10410)	10 (50451~50460)	赤

対照群には、他の群と同様の方法で媒体のみを投与した。

3.9.3 投与

投与方法および投与経路 : ディスポーザブル胃ゾンデおよびディスポーザブルシリンジを用いて、強制的に胃内に経口投与した。

投与方法および投与経路の選定理由 :

投与経路は、ヒトが被験物質に暴露される可能性の最も大きい経路である経口投与とした。被験物質が香料であるため、混餌投与方法では対照群への暴露が懸念されることから、強制経口投与方法を選択した。

投与回数 : 1日1回, 90日間.
投与時刻 : 9:01~12:13
投与液量 : 各個体の投与液量は投与日に最も近い測定日の体重に基づいて算出した.

3.10 観察, 測定および検査項目

投与開始日を投与1日 (Day 1) と起算し, 投与1~7日を投与1週 (Week 1), 剖検日は投与90日の翌日 (Day 91) とした.

3.10.1 一般状態観察

例数 : 全例
期間 : 投与1日から剖検日まで.
頻度 : 投与期間中は1日2回 (投与前および投与後), 剖検日は1日1回観察した.
観察方法 : 個々の動物の生死, 外観, 行動等について観察した. 異常が認められた場合は, その症状ならびに観察した時刻を記録した. 死亡例および衰弱による安楽死例はいなかった.

3.10.2 体重測定

例数 : 全例
測定日 : 投与1, 4, 7, 10, 14, 21, 28, 35, 42, 49, 56, 63, 70, 77, 84および90日の投与前ならびに剖検日に測定した.
測定方法 : 電子式上皿天秤 (GX-2000, 株式会社 エー・アンド・デイ) を用いて測定した.
体重増加量 : 以下の式により算出した.
$$\text{体重増加量 (g)} = \text{投与90日体重 (g)} - \text{投与1日体重 (g)}$$

3.10.3 摂餌量測定

例数 : 全例
測定日 : 投与1, 4, 7, 10, 14, 21, 28, 35, 42, 49, 56, 63, 70, 77, 84および90日に測定した.
測定方法 : 電子式上皿天秤 (GX-2000, 株式会社 エー・アンド・デイ) を用いて記録した. 投与開始日に適当量を測定後ケージ毎に給与し, その後は測定日に残餌量および給餌量を測定し, 摂餌量 (g/rat/day) を算出した. ただし, 最終測定日は残餌量のみとした.

3.10.4 眼科学的検査

例数 : 投与開始前は全例, 投与期間中は各群5例 (動物番号の若い順に選

抜した)

時期 : 投与開始前 (馴化期間中に実施) および投与 13 週
検査方法 : 前眼部を肉眼的ならびにスリットランプ (SL-2, 興和株式会社) を用いて観察した。次に, 散瞳剤 (ミドリン P, 参天製薬株式会社) で散瞳させた後, スリットランプを用いて中間透光体を観察し, 眼底カメラ (RC-2, 興和株式会社) を用いて両眼底を観察した。

3.10.5 尿検査

例数 : 各群 5 例 (動物番号の若い順に選抜した)
時期 : 投与 13 週
検査方法 : 非絶食下でラット用代謝ケージ (KN-646, B-1 型, 株式会社夏目製作所) を用いて採尿し, 投与直後から約 3 時間の蓄尿で [1] ~ [8] を, また約 21 時間の蓄尿で [9] ~ [13] を実施した。[8] 尿沈渣については, 1500 回転/分で 5 分間遠心分離後に検査を行った。採取した尿は検査終了後廃棄した。

検査項目および検査方法 :

[1]	pH	試験紙法
[2]	蛋白 (Protein)	試験紙法
[3]	糖 (Glucose)	試験紙法
[4]	ケトン体 (Ketone body)	試験紙法
[5]	ウロビリノーゲン (Urobilinogen)	試験紙法
[6]	ビリルビン (Bilirubin)	試験紙法
[7]	潜血反応 (Occult blood)	試験紙法
[8]	尿沈渣 (Urinary sediments)	Sternheimer 染色法
[9]	尿量 (Urine Volume)	容量測定
[10]	比重 (Specific gravity)	屈折計法
[11]	ナトリウム (U-Na)	イオン選択電極 (ISE) 法
[12]	カリウム (U-K)	イオン選択電極 (ISE) 法
[13]	クロール (U-Cl)	イオン選択電極 (ISE) 法

[1] ~ [7] マルティスティックス, シーメンスヘルスケア・ダイアグノスティクス株式会社

[8] 顕微鏡 BH-2, BH2-MDO, オリンパス光学工業株式会社

[10] 尿比重屈折計ユリコン-S, 株式会社アタゴ

[11] ~ [13] 自動分析装置 7080 形, 株式会社日立ハイテクノロジーズ

3.10.6 血液学的検査

例数 : 全例
時期 : 剖検時に採血
検査方法 : 夕刻からの一晩の絶食下 (16 ~ 23 時間) でラットをイソフルラン

(動物用イソフルラン, マイラン製薬株式会社) 麻酔下で腹部大動脈より採血した. 検査項目のうち [1]~[10] について EDTA・2K (ベノジェクト II 真空採血管, テルモ株式会社) で処理した血液約 1 mL を用い, [11] および [12] については, 3.8%クエン酸ナトリウムで処理した血液約 1 mL (3.8%クエン酸ナトリウム 0.1 mL+血液 0.9 mL) を遠心分離 (約 2000×g, 10 分, 4°C) で得られた血漿を用いた. 得られた血液および血漿は検査終了後廃棄した. 白血球分画が得られたため, 白血球塗抹標本 (May-Grünwald-Giemsa 染色) は作製しなかった.

検査項目および検査方法:

[1]	赤血球数 (RBC)	電気抵抗検出法
[2]	ヘマトクリット値 (HCT)	電気抵抗検出法
[3]	ヘモグロビン濃度 (HGB)	SLS ヘモグロビン法
[4]	平均赤血球容積 (MCV)	RBC, HCT 値より算出
[5]	平均赤血球ヘモグロビン量 (MCH)	RBC, HGB 値より算出
[6]	平均赤血球ヘモグロビン濃度 (MCHC)	HCT, HGB 値より算出
[7]	血小板数 (Platelet)	電気抵抗検出法
[8]	白血球数 (WBC)	フローサイトメトリー法
[9]	網赤血球数 (Reticulocyte)	フローサイトメトリー法
[10]	白血球分画 (Differential count of WBC)	フローサイトメトリー法
	1 好中球 (Neutrophil, $10^2/\mu\text{L}$)	
	2 好酸球 (Eosinophil, $10^2/\mu\text{L}$)	
	3 好塩基球 (Basophil, $10^2/\mu\text{L}$)	
	4 単球 (Monocyte, $10^2/\mu\text{L}$)	
	5 リンパ球 (Lymphocyte, $10^2/\mu\text{L}$)	
[11]	プロトロンビン時間 (PT)	トロンボプラスチン法
[12]	活性化部分トロンボプラスチン時間 (APTT)	エラジン酸法

[1]~[10] 自動血球分析装置 XT-2000 iV, シスメックス株式会社

[11], [12] 全自動血液凝固測定装置 CA-620, シスメックス株式会社

3.10.7 血液化学的検査

例数	: 全例
時期	: 剖検時に採血
検査方法	: 夕刻からの一晩の絶食下 (16~23 時間) でラットをイソフルラン (動物用イソフルラン, マイラン製薬株式会社) 麻酔下で腹部大動脈より採血した. 検査項目のうち [1], [5] については血液 1 mL あたりヘパリンナトリウム (ヘパリンナトリウム注 N 「AY」, 1000 単位

/mL, エイワイファーマ株式会社) 約 20 単位で処理後, 遠心分離 (約 2000×g, 10 分, 4°C) で得られた血漿を用いて検査した. 他の項目については分離剤入り試験管 (セパクリーン A, 栄研器材株式会社) に血液を採取し, 遠心分離 (約 2000×g, 10 分, 4°C) で得られた血清を用いて検査した. 血漿および血清は, 検査終了後-20°C 以下で凍結保存し, 試験終了日までに廃棄した.

検査項目および検査方法:

[1]	AST	JSCC 法
[2]	ALT	JSCC 法
[3]	アルカリホスファターゼ (ALP)	JSCC 法
[4]	γ-GTP	L-γ-グルタミル-3-カルボキシ-4-ニトロアニリド基質法
[5]	グルコース (Glucose)	ヘキソキナーゼ法
[6]	総コレステロール (T-Cho)	酵素法
[7]	トリグリセリド (TG)	遊離グリセロール消去法
[8]	総ビリルビン (T-Bil)	酵素法
[9]	総胆汁酸 (TBA)	酵素サイクリング法
[10]	尿素窒素 (UN)	ウレアーゼ・LED 法
[11]	クレアチニン (Crea)	酵素法
[12]	ナトリウム (Na)	イオン選択電極 (ISE) 法
[13]	カリウム (K)	イオン選択電極 (ISE) 法
[14]	クロール (Cl)	イオン選択電極 (ISE) 法
[15]	カルシウム (Ca)	OCPC 法
[16]	無機リン (IP)	Fiske-Subba Row 法
[17]	総蛋白 (TP)	ビウレット法
[18]	A/G 比 (A/G ratio)	蛋白分画より算出
[19]	アルブミン (Albumin)	総蛋白と蛋白分画より算出
[20]	蛋白分画 (Protein fraction)	アガロースゲル電気泳動法
	1 アルブミン (Albumin, %)	
	2 α ₁ -グロブリン (α ₁ -G, %)	
	3 α ₂ -グロブリン (α ₂ -G, %)	
	4 β-グロブリン (β-G, %)	
	5 γ-グロブリン (γ-G, %)	

[1] ~ [17] 自動分析装置 7080 形, 株式会社日立ハイテクノロジーズ

[18], [20] 全自動電気泳動分析装置エパライザ 2 ジュニア, 株式会社ヘレナ研究所

3.10.8 剖検

例数 : 全例

時期 : 投与 90 日の翌日に実施した.

検査方法 : 体外表を観察し、イソフルラン (動物用イソフルラン, マイラン製薬株式会社) の吸入麻酔下で採血後, 放血により安楽死させ, 全身の器官・組織を肉眼的に観察した。また, 以下の器官・組織を10%中性緩衝ホルマリンに固定・保存した。なお, 眼球およびハーダー腺はデビッドソン液で固定・保存し, 精巣および精巣上体はブアン液で固定, 70%エタノールに保存した。肺については固定液を注入後浸漬固定した。左右のある器官については, 左右とも固定・保存した。

性周期の確認 : 雌の全例について剖検日の剖検前に膣垢を採取し, ギムザ染色を施して, 光学顕微鏡下で観察して性周期段階を確認し, 器官重量または病理組織学的評価の補助とした。

器官・組織名 : 脳, 下垂体, 脊髄 (頸部), 甲状腺, 上皮小体, 胸腺, 心臓, 肺, 気管, 気管支, 肝臓, 脾臓, 腎臓, 副腎, 舌, 下顎リンパ節, 唾液腺 (顎下腺, 舌下腺), 食道, 胃, 十二指腸, 空腸, 回腸 (パイエル板含む), 盲腸, 結腸, 直腸, 腸間膜リンパ節, 膵臓, 乳腺 (原則として右腹部), 皮膚 (腹部), 膀胱, 精巣, 精巣上体, 前立腺, 精囊 (凝固腺含む), 卵巣, 卵管, 子宮, 膣, 鼻腔, 眼球, ハーダー腺, ジンバル腺, 大動脈, 胸骨 (骨髄含む), 大腿骨 (骨髄含む, 右), 末梢神経 (坐骨神経, 右), 骨格筋 (大腿二頭筋, 右) および肉眼的異常部位 (正常組織との境界部含む)。

3.10.9 器官重量測定

例数 : 全例

時期 : 剖検時

測定方法 : 電子式上皿天秤 (GR-200, 株式会社 エー・アンド・デイ) を用いて以下の器官の重量を測定した。左右のある器官については, 左右合わせて測定した。

器官・組織名 : 脳, 心臓, 肝臓, 腎臓, 肺, 精巣上体, 精巣, 精囊 (凝固腺含む); 以上(g)
下垂体, 唾液腺 (顎下腺, 舌下腺), 甲状腺 (上皮小体含む), 脾臓, 胸腺, 副腎, 前立腺, 卵巣, 子宮; 以上(mg)

相対重量の算出 : 絶対重量と剖検日に測定した体重から相対重量を算出した。

3.10.10 病理組織学的検査

例数 : 対照群および高用量群については, 剖検時に固定・保存した全器官・組織について標本作製を実施し, 鏡検した。その結果, 腎臓, 膀胱, 唾液腺, 胃, 末梢神経 (坐骨神経, 右), 骨格筋 (大腿二頭筋,

右), 胸骨 (骨髄含む) および大腿骨 (骨髄含む, 右) について, 全例, 精巣上体について, 雄の全例の標本作製を実施し, 鏡検した.

検査方法 : パラフィン包埋後薄切し, ヘマトキシリン・エオジン染色標本を作製して鏡検した.

3.10.11 人道的エンドポイント

飼育中の動物に瀕死状態以外に下記のような状態はみられなかった.

1. 急激な体重減少 (同一動物前回測定値と比較して 20%以上)
2. 呼吸・循環器系, 神経系, 運動量等に異常がみられ, 過剰または激減している.
3. 数時間での回復が見込めない衰弱または激痛を感じていると疑われる場合.
4. 意識消失, 外部刺激への反応がみられない状況が数時間継続されている場合.

3.11 統計学的方法

コンピュータシステム (MiTOX, 三井造船システム技研株式会社) を用いて実施した.

体重, 体重増加量, 摂餌量, 尿量, 尿電解質, 血液学的検査, 血液化学的検査, 器官の絶対重量および相対重量の成績については, 群毎に平均値および標準偏差を算出し, Bartlett の検定法を行い, 等分散性を解析した. 等分散 ($p \geq 0.05$) の場合は一元配置分散分析で解析し, 不等分散 ($p < 0.05$) の場合は Kruskal-Wallis の検定法で解析した. 一元配置分散分析の結果, 有意差が見られた場合 ($p < 0.1$) は Dunnett の検定法を用いて対照群との比較を行った.

Kruskal-Wallis 法の解析の結果, 有意差が見られた場合 ($p < 0.1$) は Steel の検定法を用いて対照群との比較を行った.

尿量および尿電解質を除く尿検査の成績については, Kruskal-Wallis の検定法で解析し, 有意差がみられた場合 ($p < 0.1$) は Steel の検定法を用いて対照群との比較を行った.

対照群との比較検定については, 5%未満を有意とした.

3.12 コンピュータシステムの利用

以下に示すデータの収集には MiTOX を使用した。

オンラインデータ：一般状態，体重，摂餌量，尿検査（尿電解質），血液学的検査（PT，
APTT を除く），血液化学的検査（A/G 比，蛋白分画を除く），器官重
量，病理組織学的検査

オフラインデータ：尿検査（尿電解質を除く），血液学的検査（PT，APTT），血液化学的検
査（A/G 比，蛋白分画），剖検

コンピュータプロトコールには，データ収集の項目，日程等を登録した。

4 成績

4.1 一般状態観察

一般状態観察の成績を Table 1-1 ~ 1-8 および Appendix 1-1 ~ 1-32 に示す。

1000 mg/kg 投与群において、投与 54 日以降、雌雄で振戦がみられる例が散見された。この群では、雄で投与 59 日以降に間代性痙攣が 2 例にみられた。この変化は雌でも剖検日に 1 例でみられた。

1000 mg/kg 投与群の雄の 1 例では、投与 73 ~ 75 日に上切歯破折がみられたが、ケージ内の事故であり、被験物質投与とは関連のない変化と考えられた。

300 mg/kg 投与群において、投与 9 および 10 日に雄 1 例で血尿がみられたが、1000 mg/kg 投与群では認められないことから、被験物質投与とは関連のない変化と考えられた。

そのほかの動物に一般状態に異常は認められなかった。

4.2 体重

体重の成績を Table 2-1, 2-2 および Appendix 2-1 ~ 2-8 に示す。

1000 mg/kg 投与群において、雄では投与 35 ~ 90 日、雌では投与 63 ~ 77 日および投与 90 日に対照群と比較して体重の有意な低値が認められた。

300 mg/kg 以下の投与群では、雌雄ともに投与期間を通じて有意差は認められなかった。

4.3 摂餌量

摂餌量の成績を Table 3-1, 3-2 および Appendix 3-1 ~ 3-8 に示す。

1000 mg/kg 投与群において、雄では投与 28 ~ 56 日、投与 84 ~ 90 日、雌では投与 7 ~ 90 日に対照群と比較して体重の有意な高値が認められた。

300 mg/kg 投与群では、雌では投与 56 日に対照群と比較して有意な高値が認められた。雄では投与期間を通じて有意差は認められなかった。

100 mg/kg 投与群では、雌雄ともに投与期間を通じて有意差は認められなかった。

4.4 眼科学的検査

眼科的検査の成績を Table 4-1, 4-2 および Appendix 4-1 ~ 4-8 に示す。

いずれの動物にも投与開始前および 13 週時に実施した検査において、異常は認められなかった。

4.5 尿検査

尿検査の成績を Table 5-1 ~ 5-12 および Appendix 5-1 ~ 5-16 に示す。

1000 mg/kg 投与群では、雌雄で、尿蛋白の有意な低値、ナトリウム、尿量の有意な高値が認められた。雄では尿 pH の有意な低値が認められた。

その他の群では、いずれの項目にも対照群との間に有意差は認められなかった。

4.6 血液学的検査

血液学的検査の成績を Table 6-1, 6-2 および Appendix 6-1 ~ 6-8 に示す。

1000 mg/kg 投与群において、雌雄ともに好酸球数の有意な低値が認められた。

この他 1000 mg/kg 投与群において、雄では、赤血球数 (RBC), PT および APTT の有意な低値, MCH の有意な高値, 雌では、HCT の有意な低値, MCHC の有意な高値が認められた。

300 mg/kg 投与群において、雄では MCV および MCH の有意な高値が認められた。

300 mg/kg 投与群の雌および 100 mg/kg 群の雌雄では、対照群との間に有意差は認められなかった。

4.7 血液化学的検査

血液化学的検査の成績を Table 7-1 ~ 7-4 および Appendix 7-1 ~ 7-8 に示す。

1000 mg/kg 投与群において、雌雄ともに AST, ALP の有意な高値, Cl の有意な低値が認められた。この他 1000 mg/kg 投与群において、雄ではグルコースの有意な低値, 雌では T-Bil, TP および Ca の有意な低値, β -G の有意な高値が認められた。

300 mg/kg 投与群では、雌の β -G に有意な高値が認められた。

その他では、雌雄ともに対照群と比較して有意差は認められなかった。

4.8 剖検所見

剖検所見を Table 8-1, 8-2 および Appendix 8-1 ~ 8-9 に示す。

1000 mg/kg 投与群において、雄では精巣上体尾部に黄白色巣が 7 例で認められた。

この群の雌では 1 例 (動物番号 : 50458) に肺に暗赤色巣, 下顎リンパ節と腸間膜リンパ節に赤色化が認められ, 病理組織学的検査では, 出血に関連した変化が認められた。

精巣上体尾部の黄白色巣は, 100 mg/kg 投与群でも 1 例に認められた。

その他では, 異常は認められなかった。

4.9 器官重量

器官重量の成績を Table 9-1 ~ 9-4 および Appendix 9-1 ~ 9-16 に示す。

1000 mg/kg 投与群において、肝臓では雌が絶対重量および相対重量, 雄が相対重量に有意な高値が認められた。

この群では、雌雄ともに腎臓, 心臓, 脾臓および脳の前重量の有意な高値, 下垂体の絶対重量に有意な低値, 雄では副腎および精巣の絶対重量に有意な低値, 肺, 精巣上体および精囊の相対重量の有意な高値, 雌では唾液腺および副腎の相対重量の有意な高値が認められた。

100 mg/kg 投与群において、雄では、下垂体の絶対重量に有意な低値が認められたが、相対重量には変化がなく、300 mg/kg 投与群では有意差は認められないことから、被験物質投与とは関連のない変化と考えられた。

その他、300 mg/kg 投与群の雌雄および 100 mg/kg 投与群の雌では、対照群との間に有意差は認められなかった。

4.10 病理組織学的検査

病理組織学的検査の成績を Table 10-1 ~ 10-9 および Appendix 10-1 ~ 10-33 に示す。

1000 mg/kg 投与群において、雌雄ともに顎下腺に顆粒管の分泌顆粒減少（雄；軽微 5 例，雌；軽微 1 例），胃に前胃の過角化（雄；軽微 4 例，雌；軽微 3 例）と境界縁の過角化（雄；軽微 3 例），腎臓は腎盂粘膜の空胞化（雄；軽微 2 例，雌；軽微 1 例），膀胱は尿路上皮の空胞化（雄；軽度 3 例，軽微 7 例，雌；軽度 3 例，軽微 6 例），坐骨神経は限局性軸索変性（雄；軽微 6 例，雌；軽微 5 例），骨格筋に限局性の筋変性（雄；軽微 4 例，雌；軽微 3 例），胸骨に骨梁増加（雄；軽微 7 例，雌；軽微 5 例），大腿骨に骨梁増加（雄；軽微 5 例，雌；軽微 9 例）が認められた。さらにこの群の雄では、精巣上体に篩状変化（軽微 10 例），精子減少（軽微 10 例），精子肉芽腫（軽微 7 例）が認められた。

この他、1000 mg/kg 投与群では、雌雄ともに心臓に限局性炎症性細胞浸潤（雄；軽微 4 例，軽度 1 例，雌；2 例），雄に鼻腔の鉍質沈着（軽微 1 例），精巣の精細管の変性（軽微 1 例），腎臓の間質に炎症性細胞浸潤（軽微 1 例），腎臓尿細管の限局性好塩基性化（軽微 1 例），パリエル板に鉍質沈着（軽微 2 例），雌に肺の限局性出血（軽微 1 例），肝臓に微小肉芽腫（軽微 1 例），胸腺に上皮細胞の遺残（軽微 1 例），前立腺に炎症性細胞浸潤（軽度 1 例），下垂体に頭蓋咽頭管遺残（軽度 1 例），甲状腺に鰓後体遺残（軽微 5 例），下顎リンパ節と腸間膜リンパ節に血液吸収（軽微各 1 例）が認められた。

300 mg/kg 投与群において、雄では腎臓に硝子円柱，雌では腎臓尿細管の限局性好塩基性化が認められたが，高用量の 1000 mg/kg 投与群では認められず，低頻度の発現であり，試験施設の背景データで認められる変化²⁾であることから，被験物質投与とは関連のない変化と考えられた。

100 mg/kg 投与群において，剖検で精巣上体尾部に黄白色巢の認められた雄 1 例では，精子肉芽腫が認められた。

5 考察および結論

1000 mg/kg 投与群では，雌雄ともに振戦あるいは間代性痙攣が散見され，体重増加抑制および摂餌量の増加が認められた。

尿検査では雌雄ともに尿蛋白の有意な低値，ナトリウム，尿量の有意な高値，雄では尿 pH の有意な低値が認められたが，病理組織学的検査では腎臓あるいは下垂体に変化はなく，血液化学的検査では尿素窒素，ナトリウム，カリウムおよびグルコースに顕著な変化はないことから，浸透圧の上昇もないと考えられた。尿量の増加は摂餌量の増加に伴い，飲水量が

増加している可能性が考えられたが、摂餌量の増加は雌雄ともに 10%程度であることに對し、尿量は平均で 3 倍弱の高値を示していた。また、有意ではなく、その他の項目にも変化がなかったが、300 mg/kg 群でも雌雄ともに尿量では高値傾向は認められていた。以上のことから、1000 mg/kg 群では尿量、尿蛋白、ナトリウムおよび pH に対して、被験物質投与による影響の可能性が考えられた。

1000 mg/kg 投与群において、血液学的検査では雌雄ともに好酸球数の低値が認められたが、他の白血球に関連する測定項目では、異常はなかった。雄では、RBC、PT および APTT の有意な低値、MCH の有意な高値が認められ、雌では、HCT の有意な低値、MCHC の有意な高値が認められた。雄の PT および APTT の有意な低値については、APTT の 1 例を除き、対照群の範囲 (PT ; 15.3 ~ 23.3 sec, APTT ; 14.2 ~ 23.4 sec) 内であり、病理組織学的検査においても出血傾向を疑う変化が認められないことから、被験物質投与とは関連のない変化と考えられた。雄の RBC の有意な低値、MCH の有意な高値、雌の HCT の有意な低値、MCHC の有意な高値については、雌雄ともに網状赤血球数等に変化はなく、病理組織学的検査においても貧血を疑う変化は認められなかった。さらにいずれの項目も試験施設の背景データ¹⁾の範囲 (雄 : RBC ; 811 ~ 1089 × 10⁴/μL, MCH ; 15.8 ~ 19.2 pg, 雌 : HCT ; 35.6 ~ 49.1%, MCHC ; 33.7 ~ 37.1 g/dL) 内であることから、被験物質投与とは関連のない変化と考えられた。300 mg/kg 投与群においても、雄では MCV および MCH にもの有意な高値が認められたが、網状赤血球数や病理組織学的検査において貧血を疑う変化はなく、全例が試験施設の背景データ¹⁾の範囲 (MCV ; 43.2 ~ 54.5 fL, MCH ; 15.8 ~ 19.2 pg) 内であったことから、被験物質投与とは関連のない変化と考えられた。

1000 mg/kg 投与群において、血液化学的検査では雌雄ともに AST、ALP の有意な高値、Cl の有意な低値が認められた。AST および ALP の高値について、肝臓には関連すると考えられる病理組織変化はなく、AST は全例で試験施設の背景データ¹⁾の範囲 (雄 ; 40 ~ 178 IU/L, 雌 ; 40 ~ 310 IU/L) 内ではあったが、雌雄ともに肝臓重量の増加が認められたことから、被験物質投与による肝臓への影響が考えられた。ALP は、病理組織学的検査で胸骨および大腿骨に骨梁増加が認められていることから、この変化に関連する可能性が考えられた。Cl の低値について、ナトリウム、カリウム等に変化はなく、雌雄ともに全例が試験施設の背景データ¹⁾の範囲 (Cl : 雄 ; 100~109mEq/L, 雌 ; 99~109mEq/L) 内であることから、被験物質投与とは関連のない変化と考えられた。

1000 mg/kg 投与群では、雄のグルコースの有意な低値、雌の T-Bil、TP および Ca の有意な低値、β-G の有意な高値が認められた。グルコースについては、1 例を除き、対照群の範囲 (156 ~ 212 mg/dL) 内であり、全例が試験施設の背景データ¹⁾の範囲 (グルコース ; 117 ~ 231 mg/dL) であることから、被験物質投与による毒性変化ではないと考えられた。T-Bil に

ついては、低値であったことから、毒性学的に意味のない変化と考えられ、全例で試験施設の背景データ¹⁾の範囲 (T-Bil ; 0.04 ~ 0.18 mg/dL) 内であることから、被験物質投与による毒性変化ではないと考えられた。TPについては、A/G比、アルブミンに有意差はなく、病理組織学的検査では肝臓に関連する変化は認められなかった。さらに全例で試験施設の背景データ¹⁾の範囲 (TP ; 5.1 ~ 7.2 g/dL) 内であることから、被験物質投与による毒性変化ではないと考えられた。Caについて、病理組織学的検査では甲状腺機能障害および腎不全を示唆する変化は認められず、全例で試験施設の背景データ¹⁾の範囲 (8.8 ~ 11.4 mg/dL) 内であることから、被験物質投与による毒性変化ではないと考えられた。

300 mg/kg 以上の投与群において、雌のβ-Gに有意な高値が認められたが、A/G比、アルブミンに有意差はなく、1000 mg/kg 投与群では全例が対照群の範囲 (β-G ; 10.8 ~ 15.5%) 内であり、300 mg/kg 以上の投与群の全例が試験施設の背景データ¹⁾の範囲 (β-G ; 11.8 ~ 20.6%) 内であることから、被験物質投与とは関連のない変化と考えられた。

1000 mg/kg 投与群において、器官重量では、雌雄ともに腎臓、心臓、脾臓および脳の相対重量の有意な高値、下垂体の絶対重量に有意な低値、雄では副腎および精巣の絶対重量に有意な低値、肺、精巣上体および精囊の相対重量の有意な高値、雌では唾液腺および副腎の相対重量の有意な高値が認められたが、いずれの変化も絶対重量の低値あるいは相対重量の高値のどちらか一方の変化であることから、低体重に関連した変化と考えられた。

1000 mg/kg 投与群において、剖検では、雄の精巣上体尾部に黄白色巣が認められ、組織学的変化として、精巣上体に篩状変化、精子減少、精子肉芽腫が認められた。病理組織学的検査では、雌雄ともに顎下腺に顆粒管の分泌顆粒の減少、胃に前胃の過角化 (雄は境界縁の過角化も含む)、腎臓に腎盂粘膜の空胞化、膀胱に尿路上皮の空胞化、坐骨神経に限局性軸索変性、骨格筋に限局性の筋変性、胸骨および大腿骨に骨梁増加が認められた。胃の過角化、膀胱 (および腎盂) の尿路上皮の空胞化は化学物質等の刺激に対する反応性的変化として知られており³⁾、被験物質に長時間触れることから認められた変化である可能性が考えられた。

1000 mg/kg 投与群の雌の1例 (動物番号 : 50458) において、肺に暗赤色巣、下顎リンパ節と腸間膜リンパ節に赤色化が認められ、病理組織学的検査では、肺の限局性出血、下顎リンパ節と腸間膜リンパ節はともに血液吸収が認められた。これらの変化は1例のみに認められた変化であり、その他では関連性のある変化は認められなかったが、被験物質投与との関連は否定できなかった。

この他、1000 mg/kg 投与群では、雌雄ともに心臓に限局性炎症性細胞浸潤 (雄 ; 軽微4例, 軽度1例, 雌 ; 2例), 雄に鼻腔の鉍質沈着 (軽微1例), 精巣の精細管の変性 (軽微1例), 腎臓の間質に炎症性細胞浸潤 (軽微1例), 腎臓尿細管の限局性好塩基性化 (軽微1例), パイエル板に鉍質沈着 (軽微2例), 雌に肺の限局性出血 (軽微1例), 肝臓に微小肉芽腫 (軽

微 1 例), 胸腺に上皮細胞の遺残 (軽微 1 例), 前立腺に炎症性細胞浸潤 (軽度 1 例), 下垂体に頭蓋咽頭管遺残 (軽度 1 例), 甲状腺に鰓後体遺残 (軽微 5 例), 下顎リンパ節と腸間膜リンパ節に血液吸収 (軽微各 1 例) が認められたが, いずれも対照群でも認められる変化, 低頻度の発現であり, 試験施設の背景データで認められる変化²⁾もしくは自然発生が知られている変化³⁾であることから, 被験物質投与とは関連のない変化と考えられた。

100 mg/kg 投与群において, 剖検で精巣上体尾部に黄白色巢の認められた雄 1 例では, 精子肉芽腫が認められた。この変化は, 1000 mg/kg 投与群の精巣上体でも認められたが, 1000 mg/kg 投与群では篩状変化および精子減少が全例で認められており, 100 mg/kg 投与群ではこれらの変化は認められなかった。さらに精巣上体の変化は, 300 mg/kg 投与群では, 認められないことから, 100 mg/kg 投与群で認められた精巣上体の変化は, 被験物質投与とは関連のない変化と考えられた。

300 mg/kg 以下の投与群では, 雌雄ともに被験物質投与に関連すると考えられる変化はなかった。

以上のことから, 本試験条件下では雌雄ともに 4-メチルベンズアルデヒドの 1000 mg/kg 投与群では, 一般状態の変化, 体重増加抑制, 摂餌量増加, 尿量増加, 尿中ナトリウムの高値, 尿蛋白および尿 pH の低値, AST および ALP の高値, 肝重量の増加, 精巣上体, 顎下腺, 胃, 膀胱, 坐骨神経, 骨格筋, 胸骨ならびに大腿骨における病理組織学的変化等が, 被験物質投与に関連した変化として認められた。4-メチルベンズアルデヒドの無毒性量は雌雄ともに 300 mg/kg と考えられた。

6 資料の保存

6.1 資料の種類

以下を [] に保存する。

1. 試験計画書および試験計画書変更書
2. 生データその他の記録文書
3. 最終報告書
4. 標本

6.2 保存期間

試験終了後 10 年間保存し, その後の保存については試験委託者との協議により決定する。

7 予見することができなかつた試験の信頼性に影響を及ぼす疑いのある事態および試験計画書に従わなかつたこと

■■■■未明に起きた■■■■を震源とする非常に強い地震により、■■■■で停電が発生したため、試験施設への電力の供給が停止した。

しかし、地震による機器や施設への被害は認められず、停電時も自家発電機設備により電力が供給されたため、生データ等の各種試資料の保存状況に影響はなかつた。従って、試験の信頼性に及ぼす影響はないと判断した。

その他、予見することができなかつた試験の信頼性に影響を及ぼす疑いのある事態および試験計画書に従わなかつたことはなかつた。

8 参考資料

- 1) 血液学的検査および血液化学的検査 背景データ Crl:SD (CD) ラット (雌雄 : 18 ~ 20 週齢) (2012-2018) ■■■■ 社内資料
- 2) 病理組織 背景データ ラット (2012-2018) ■■■■ 社内資料.
- 3) 日本毒性病理学会編. 新毒性病理組織学. 西村書店. 東京. 2017.

Figure 1 - 1

Study No. [REDACTED]

Body weight, Male

Species : Rat

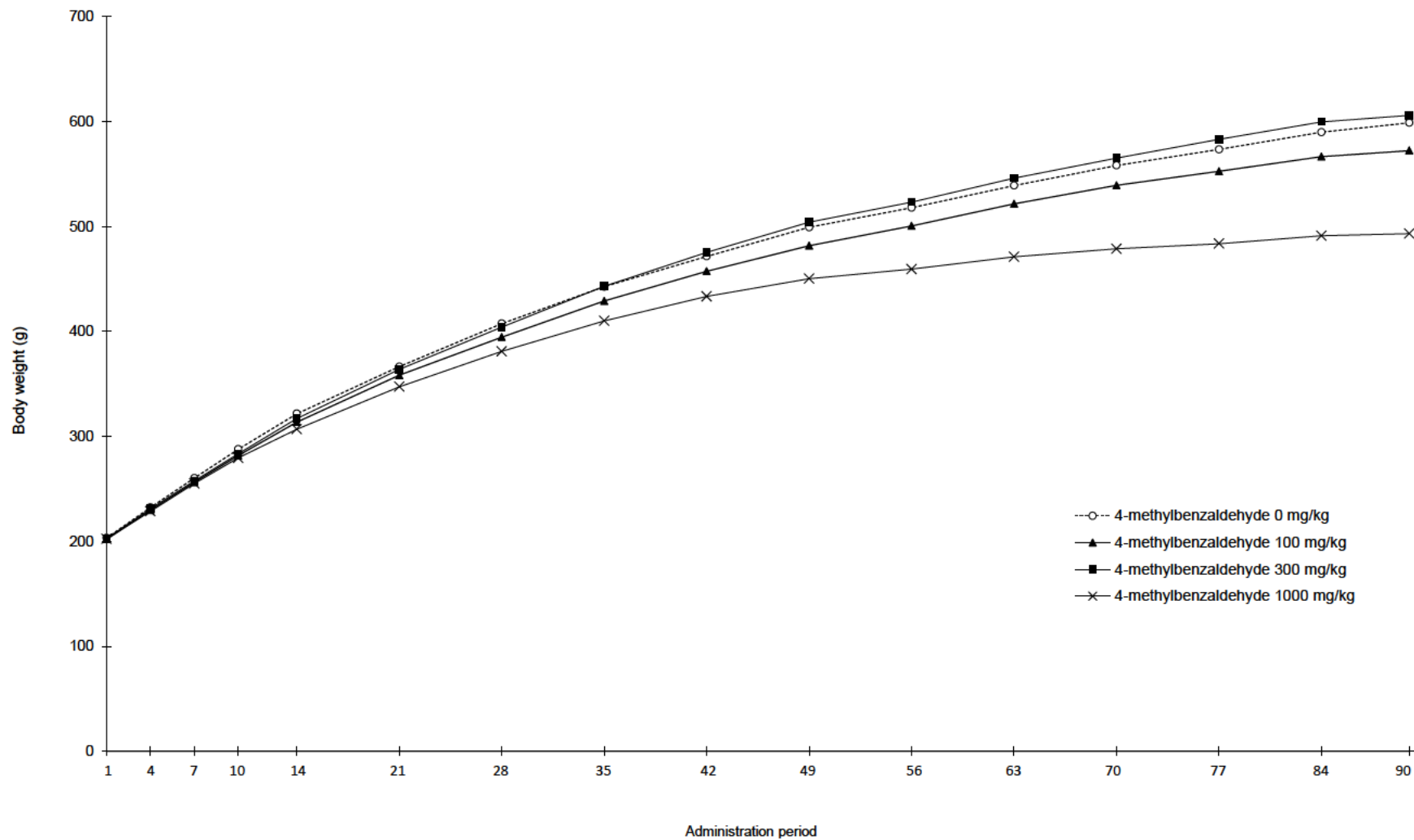


Figure 1 - 2

Study No. : [REDACTED]

Body weight, Female

Species : Rat

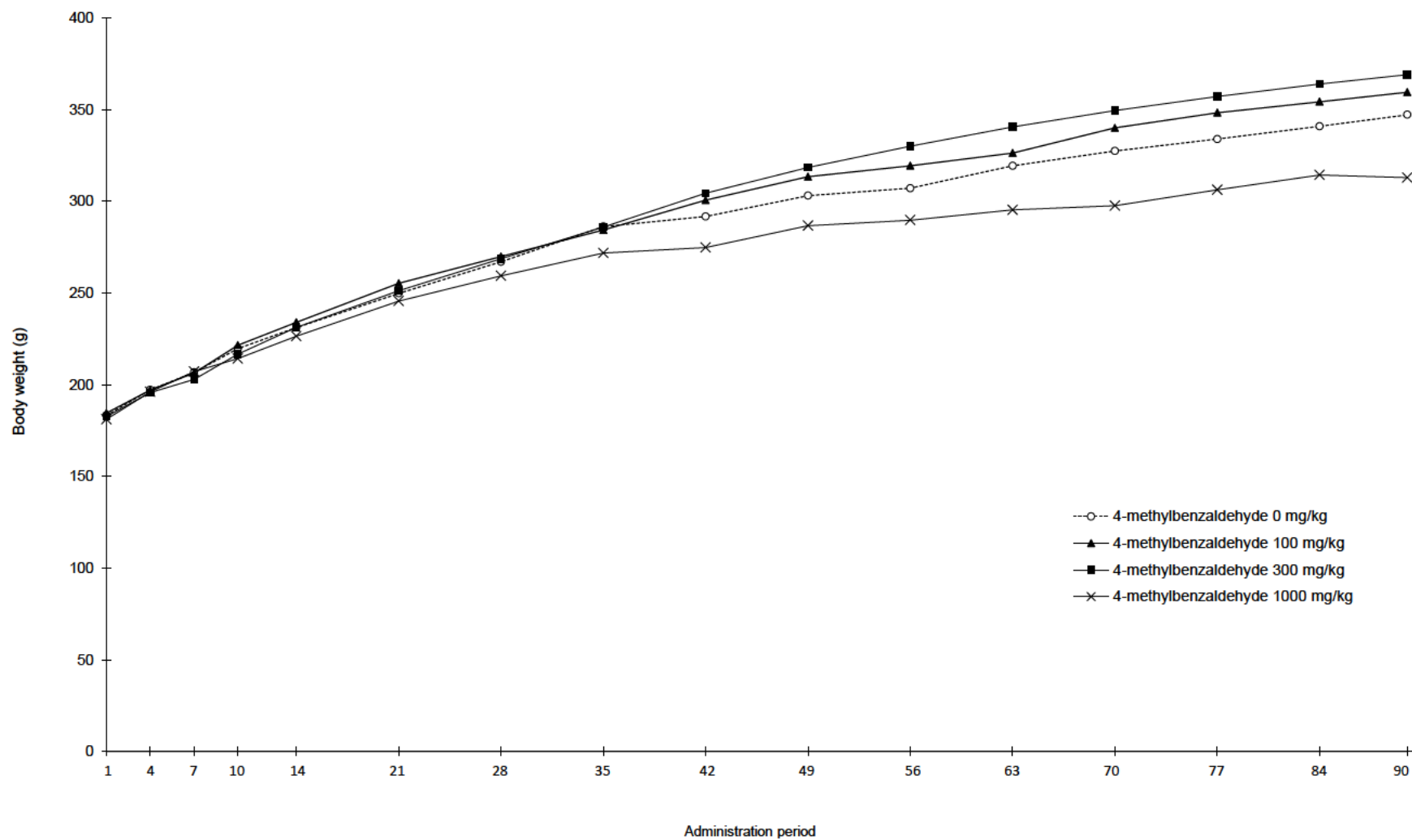


Figure 2 - 1

Study No. : [REDACTED]

Food consumption, Male

Species : Rat

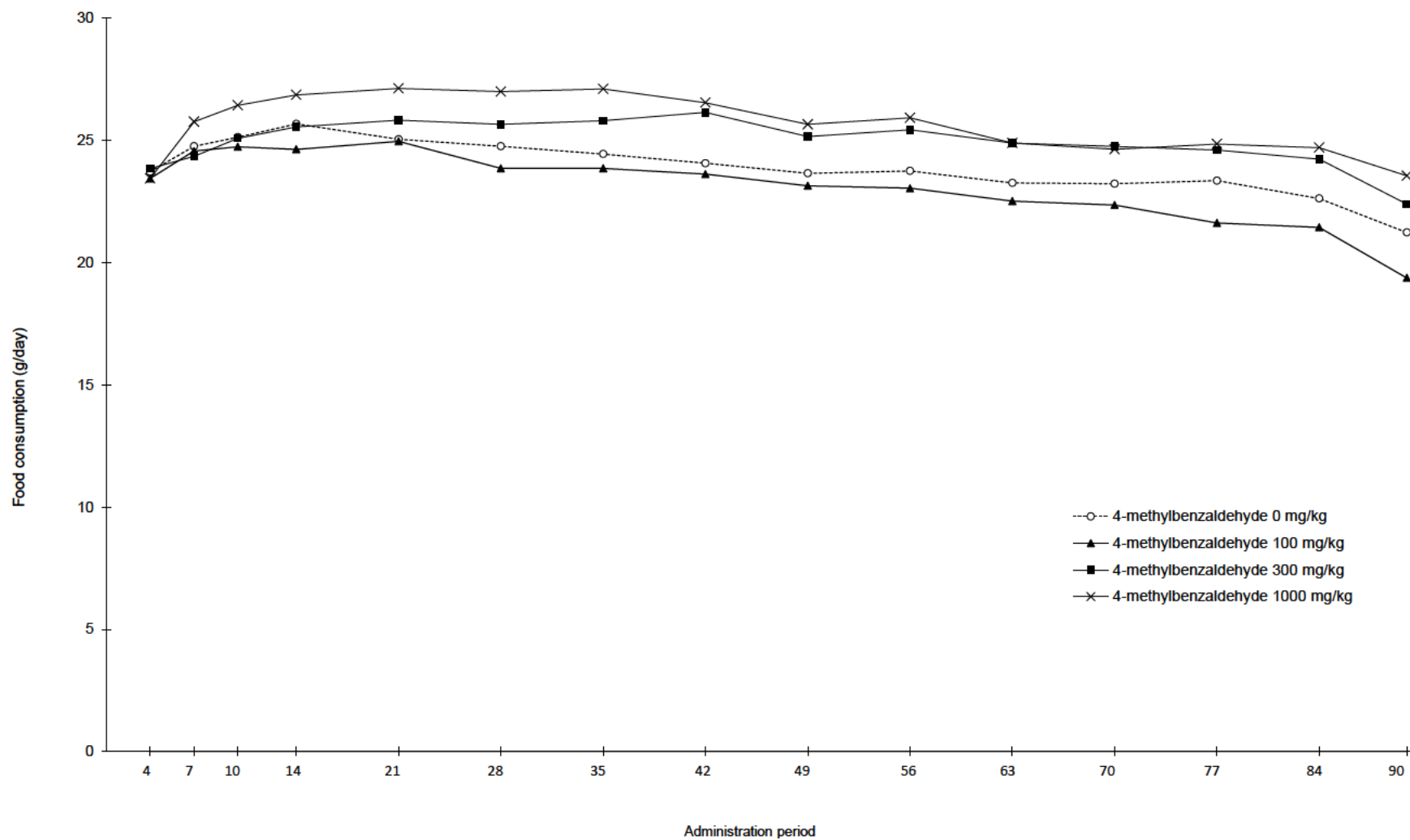


Figure 2 - 2

Study No. [REDACTED]

Food consumption, Female

Species : Rat

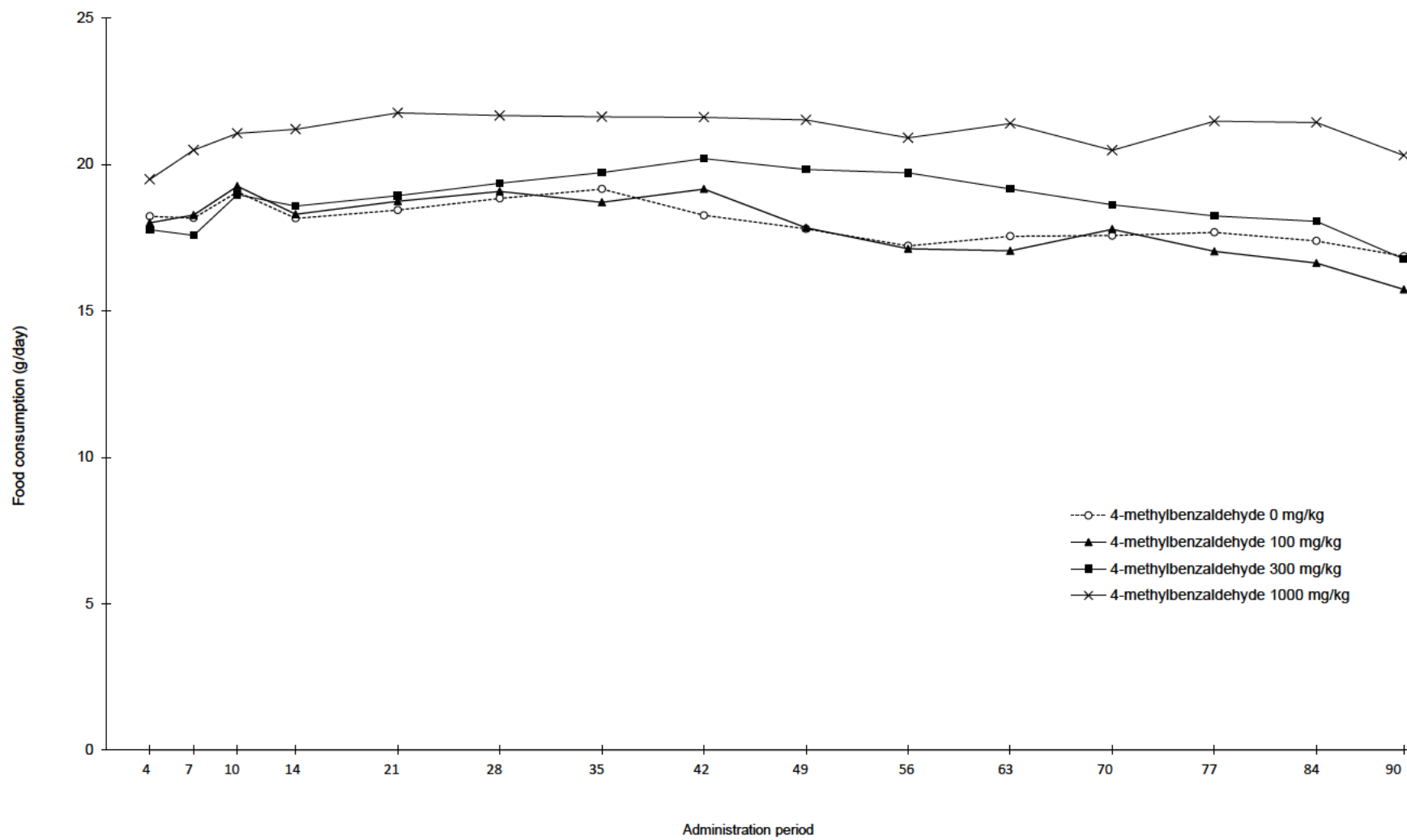


Table 1 - 1

Study No. : ██████████

Clinical sign Sex : Male		Period : Administration Day 1-91																Species : Rat
Test article Dose	Clinical signs	Day	1		2		3		4		5		6		7		8	
		Time	BA	AA	BA	AA	BA	AA	BA	AA	BA	AA	BA	AA	BA	AA	BA	AA
4-methylbenzaldehyde 0 mg/kg	n No abnormality	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10
4-methylbenzaldehyde 100 mg/kg	n No abnormality	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10
4-methylbenzaldehyde 300 mg/kg	n No abnormality	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10
	Hematuria	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4-methylbenzaldehyde 1000 mg/kg	n No abnormality	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10
	Tremor	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Clonic convulsion	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Crushing of incisors (F3)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Test article Dose	Clinical signs	Day	9		10		11		12		13		14		15		16	
		Time	BA	AA	BA	AA	BA	AA	BA	AA	BA	AA	BA	AA	BA	AA	BA	AA
4-methylbenzaldehyde 0 mg/kg	n No abnormality	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10
4-methylbenzaldehyde 100 mg/kg	n No abnormality	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10
4-methylbenzaldehyde 300 mg/kg	n No abnormality	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10
	Hematuria	9	9	9	10	10	10	10	10	10	10	10	10	10	10	10	10	10
		1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4-methylbenzaldehyde 1000 mg/kg	n No abnormality	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10
	Tremor	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Clonic convulsion	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Crushing of incisors (F3)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Test article Dose	Clinical signs	Day	17		18		19		20		21		22		23		24	
		Time	BA	AA	BA	AA	BA	AA	BA	AA	BA	AA	BA	AA	BA	AA	BA	AA
4-methylbenzaldehyde 0 mg/kg	n No abnormality	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10
4-methylbenzaldehyde 100 mg/kg	n No abnormality	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10
4-methylbenzaldehyde 300 mg/kg	n No abnormality	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10
	Hematuria	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4-methylbenzaldehyde 1000 mg/kg	n No abnormality	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10
	Tremor	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Clonic convulsion	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Crushing of incisors (F3)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

BA : Before administration, AA : After administration

F3:Upper incisor

Table 1 - 2

Study No. [REDACTED]

Clinical sign Sex : Male		Period : Administration Day 1-91																
		Species : Rat																
Test article Dose	Clinical signs	Day	25		26		27		28		29		30		31		32	
		Time	BA	AA	BA	AA	BA	AA	BA	AA	BA	AA	BA	AA	BA	AA	BA	AA
4-methylbenzaldehyde 0 mg/kg	n No abnormality	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10
4-methylbenzaldehyde 100 mg/kg	n No abnormality	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10
4-methylbenzaldehyde 300 mg/kg	n No abnormality	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10
	Hematuria	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4-methylbenzaldehyde 1000 mg/kg	n No abnormality	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10
	Tremor	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Clonic convulsion	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Crushing of incisors (F3)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Test article Dose	Clinical signs	Day	33		34		35		36		37		38		39		40	
		Time	BA	AA	BA	AA	BA	AA	BA	AA	BA	AA	BA	AA	BA	AA	BA	AA
4-methylbenzaldehyde 0 mg/kg	n No abnormality	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10
4-methylbenzaldehyde 100 mg/kg	n No abnormality	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10
4-methylbenzaldehyde 300 mg/kg	n No abnormality	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10
	Hematuria	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4-methylbenzaldehyde 1000 mg/kg	n No abnormality	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10
	Tremor	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Clonic convulsion	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Crushing of incisors (F3)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Test article Dose	Clinical signs	Day	41		42		43		44		45		46		47		48	
		Time	BA	AA	BA	AA	BA	AA	BA	AA	BA	AA	BA	AA	BA	AA	BA	AA
4-methylbenzaldehyde 0 mg/kg	n No abnormality	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10
4-methylbenzaldehyde 100 mg/kg	n No abnormality	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10
4-methylbenzaldehyde 300 mg/kg	n No abnormality	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10
	Hematuria	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4-methylbenzaldehyde 1000 mg/kg	n No abnormality	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10
	Tremor	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Clonic convulsion	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Crushing of incisors (F3)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

BA : Before administration, AA : After administration
F3:Upper incisor

Table 1 - 3

Study No. : ██████████

Clinical sign		Period : Administration Day 1-91														Species : Rat			
Sex : Male																			
Test article	Dose	Clinical signs	Day	49		50		51		52		53		54		55		56	
			Time	BA	AA	BA	AA	BA	AA	BA	AA	BA	AA	BA	AA	BA	AA	BA	AA
4-methylbenzaldehyde	n		10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10
0 mg/kg		No abnormality	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10
4-methylbenzaldehyde	n		10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10
100 mg/kg		No abnormality	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10
4-methylbenzaldehyde	n		10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10
300 mg/kg		No abnormality	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10
		Hematuria	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4-methylbenzaldehyde	n		10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10
1000 mg/kg		No abnormality	10	10	10	10	10	10	10	10	10	10	10	10	8	8	8	8	8
		Tremor	0	0	0	0	0	0	0	0	0	0	0	0	2	2	2	2	2
		Clonic convulsion	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
		Crushing of incisors (F3)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Test article	Dose	Clinical signs	Day	57		58		59		60		61		62		63		64	
			Time	BA	AA	BA	AA	BA	AA	BA	AA	BA	AA	BA	AA	BA	AA	BA	AA
4-methylbenzaldehyde	n		10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10
0 mg/kg		No abnormality	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10
4-methylbenzaldehyde	n		10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10
100 mg/kg		No abnormality	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10
4-methylbenzaldehyde	n		10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10
300 mg/kg		No abnormality	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10
		Hematuria	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4-methylbenzaldehyde	n		10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10
1000 mg/kg		No abnormality	8	8	8	8	8	8	6	8	7	8	6	8	7	7	6	7	7
		Tremor	2	2	2	2	2	2	2	2	2	2	2	2	3	3	3	3	3
		Clonic convulsion	0	0	0	0	0	0	2	0	1	0	2	0	1	0	1	0	0
		Crushing of incisors (F3)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Test article	Dose	Clinical signs	Day	65		66		67		68		69		70		71		72	
			Time	BA	AA	BA	AA	BA	AA	BA	AA	BA	AA	BA	AA	BA	AA	BA	AA
4-methylbenzaldehyde	n		10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10
0 mg/kg		No abnormality	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10
4-methylbenzaldehyde	n		10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10
100 mg/kg		No abnormality	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10
4-methylbenzaldehyde	n		10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10
300 mg/kg		No abnormality	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10
		Hematuria	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4-methylbenzaldehyde	n		10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10
1000 mg/kg		No abnormality	7	6	6	5	6	5	5	6	5	5	4	6	5	5	5	5	5
		Tremor	3	3	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4
		Clonic convulsion	0	1	0	1	0	1	1	0	1	1	2	0	1	1	1	1	1
		Crushing of incisors (F3)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

BA : Before administration, AA : After administration

F3:Upper incisor

Table 1 - 4

Study No. : ██████████

Clinical sign Sex : Male		Period : Administration Day 1-91																
		Species : Rat																
Test article Dose	Clinical signs	Day	73		74		75		76		77		78		79		80	
		Time	BA	AA	BA	AA	BA	AA	BA	AA	BA	AA	BA	AA	BA	AA	BA	AA
4-methylbenzaldehyde 0 mg/kg	n No abnormality	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10
4-methylbenzaldehyde 100 mg/kg	n No abnormality	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10
4-methylbenzaldehyde 300 mg/kg	n No abnormality	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10
	Hematuria	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4-methylbenzaldehyde 1000 mg/kg	n No abnormality	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10
	Tremor	5	4	5	6	5	5	5	6	4	6	4	6	6	4	5	6	
	Clonic convulsion	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	
	Crushing of incisors (F3)	1	2	1	0	1	1	1	0	2	0	2	0	0	2	1	0	
		1	1	1	1	1	1	0	0	0	0	0	0	0	0	0	0	

Test article Dose	Clinical signs	Day	81		82		83		84		85		86		87		88	
		Time	BA	AA	BA	AA	BA	AA	BA	AA	BA	AA	BA	AA	BA	AA	BA	AA
4-methylbenzaldehyde 0 mg/kg	n No abnormality	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	
4-methylbenzaldehyde 100 mg/kg	n No abnormality	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	
4-methylbenzaldehyde 300 mg/kg	n No abnormality	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	
	Hematuria	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
4-methylbenzaldehyde 1000 mg/kg	n No abnormality	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	
	Tremor	6	5	6	5	5	6	5	5	6	5	4	5	5	5	5	4	
	Clonic convulsion	4	4	4	4	4	4	4	4	4	4	5	5	5	5	5		
	Crushing of incisors (F3)	0	1	0	1	1	0	1	1	0	1	2	0	1	0	0	1	
		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	

Test article Dose	Clinical signs	Day	89		90		91	
		Time	BA	AA	BA	AA	N	N
4-methylbenzaldehyde 0 mg/kg	n No abnormality	10	10	10	10	10	10	
4-methylbenzaldehyde 100 mg/kg	n No abnormality	10	10	10	10	10		
4-methylbenzaldehyde 300 mg/kg	n No abnormality	10	10	10	10	10		
	Hematuria	0	0	0	0	0		
4-methylbenzaldehyde 1000 mg/kg	n No abnormality	10	10	10	10	10		
	Tremor	4	5	4	5	4		
	Clonic convulsion	5	5	5	5	5		
	Crushing of incisors (F3)	1	0	1	0	1		
		0	0	0	0	0		

BA : Before administration, AA : After administration, N : Necropsy day
F3:Upper incisor

Table 1 - 5

Study No. : ██████████

Clinical sign		Period : Administration Day 1-91																	
Sex : Female		Species : Rat																	
Test article	Dose	Clinical signs	Day	1		2		3		4		5		6		7		8	
			Time	BA	AA	BA	AA	BA	AA	BA	AA	BA	AA	BA	AA	BA	AA	BA	AA
4-methylbenzaldehyde	n		10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10
0 mg/kg		No abnormality	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10
4-methylbenzaldehyde	n		10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10
100 mg/kg		No abnormality	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10
4-methylbenzaldehyde	n		10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10
300 mg/kg		No abnormality	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10
4-methylbenzaldehyde	n		10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10
1000 mg/kg		No abnormality	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10
		Tremor	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
		Clonic convulsion	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Test article	Dose	Clinical signs	Day	9		10		11		12		13		14		15		16	
			Time	BA	AA	BA	AA	BA	AA	BA	AA	BA	AA	BA	AA	BA	AA	BA	AA
4-methylbenzaldehyde	n		10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10
0 mg/kg		No abnormality	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10
4-methylbenzaldehyde	n		10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10
100 mg/kg		No abnormality	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10
4-methylbenzaldehyde	n		10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10
300 mg/kg		No abnormality	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10
4-methylbenzaldehyde	n		10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10
1000 mg/kg		No abnormality	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10
		Tremor	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
		Clonic convulsion	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Test article	Dose	Clinical signs	Day	17		18		19		20		21		22		23		24	
			Time	BA	AA	BA	AA	BA	AA	BA	AA	BA	AA	BA	AA	BA	AA	BA	AA
4-methylbenzaldehyde	n		10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10
0 mg/kg		No abnormality	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10
4-methylbenzaldehyde	n		10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10
100 mg/kg		No abnormality	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10
4-methylbenzaldehyde	n		10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10
300 mg/kg		No abnormality	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10
4-methylbenzaldehyde	n		10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10
1000 mg/kg		No abnormality	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10
		Tremor	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
		Clonic convulsion	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

BA : Before administration, AA : After administration

Table 1 - 6

Study No. : ██████████

Clinical sign		Period : Administration Day 1-91														Species : Rat			
Sex : Female																			
Test article	Dose	Clinical signs	Day	25		26		27		28		29		30		31		32	
			Time	BA	AA	BA	AA	BA	AA	BA	AA	BA	AA	BA	AA	BA	AA	BA	AA
4-methylbenzaldehyde	n		10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10
0 mg/kg		No abnormality	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10
4-methylbenzaldehyde	n		10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10
100 mg/kg		No abnormality	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10
4-methylbenzaldehyde	n		10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10
300 mg/kg		No abnormality	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10
4-methylbenzaldehyde	n		10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10
1000 mg/kg		No abnormality	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10
		Tremor	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
		Clonic convulsion	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Test article	Dose	Clinical signs	Day	33		34		35		36		37		38		39		40	
			Time	BA	AA	BA	AA	BA	AA	BA	AA	BA	AA	BA	AA	BA	AA	BA	AA
4-methylbenzaldehyde	n		10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	
0 mg/kg		No abnormality	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	
4-methylbenzaldehyde	n		10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	
100 mg/kg		No abnormality	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	
4-methylbenzaldehyde	n		10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	
300 mg/kg		No abnormality	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	
4-methylbenzaldehyde	n		10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	
1000 mg/kg		No abnormality	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	
		Tremor	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
		Clonic convulsion	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	

Test article	Dose	Clinical signs	Day	41		42		43		44		45		46		47		48	
			Time	BA	AA	BA	AA	BA	AA	BA	AA	BA	AA	BA	AA	BA	AA	BA	AA
4-methylbenzaldehyde	n		10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	
0 mg/kg		No abnormality	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	
4-methylbenzaldehyde	n		10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	
100 mg/kg		No abnormality	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	
4-methylbenzaldehyde	n		10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	
300 mg/kg		No abnormality	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	
4-methylbenzaldehyde	n		10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	
1000 mg/kg		No abnormality	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	
		Tremor	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
		Clonic convulsion	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	

BA : Before administration, AA : After administration

Table 1 - 7

Study No. : ██████████

Clinical sign		Period : Administration Day 1-91																	
Sex : Female		Species : Rat																	
Test article	Dose	Clinical signs	Day	49		50		51		52		53		54		55		56	
			Time	BA	AA	BA	AA	BA	AA	BA	AA	BA	AA	BA	AA	BA	AA	BA	AA
4-methylbenzaldehyde	n		10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10
0 mg/kg		No abnormality	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10
4-methylbenzaldehyde	n		10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10
100 mg/kg		No abnormality	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10
4-methylbenzaldehyde	n		10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10
300 mg/kg		No abnormality	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10
4-methylbenzaldehyde	n		10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10
1000 mg/kg		No abnormality	10	10	10	10	10	10	10	10	10	10	10	9	9	8	8	8	8
		Tremor	0	0	0	0	0	0	0	0	0	0	0	1	1	2	2	2	2
		Clonic convulsion	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Test article	Dose	Clinical signs	Day	57		58		59		60		61		62		63		64	
			Time	BA	AA	BA	AA	BA	AA	BA	AA	BA	AA	BA	AA	BA	AA	BA	AA
4-methylbenzaldehyde	n		10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10
0 mg/kg		No abnormality	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10
4-methylbenzaldehyde	n		10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10
100 mg/kg		No abnormality	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10
4-methylbenzaldehyde	n		10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10
300 mg/kg		No abnormality	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10
4-methylbenzaldehyde	n		10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10
1000 mg/kg		No abnormality	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	7	7
		Tremor	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	3	3
		Clonic convulsion	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Test article	Dose	Clinical signs	Day	65		66		67		68		69		70		71		72	
			Time	BA	AA	BA	AA	BA	AA	BA	AA	BA	AA	BA	AA	BA	AA	BA	AA
4-methylbenzaldehyde	n		10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10
0 mg/kg		No abnormality	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10
4-methylbenzaldehyde	n		10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10
100 mg/kg		No abnormality	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10
4-methylbenzaldehyde	n		10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10
300 mg/kg		No abnormality	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10
4-methylbenzaldehyde	n		10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10
1000 mg/kg		No abnormality	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6
		Tremor	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4
		Clonic convulsion	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

BA : Before administration, AA : After administration

Clinical sign		Period : Administration Day 1-91																	
Sex : Female		Species : Rat																	
Test article	Dose	Clinical signs	Day	73		74		75		76		77		78		79		80	
			Time	BA	AA	BA	AA	BA	AA	BA	AA	BA	AA	BA	AA	BA	AA	BA	AA
4-methylbenzaldehyde	n		10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10
0 mg/kg		No abnormality	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10
4-methylbenzaldehyde	n		10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10
100 mg/kg		No abnormality	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10
4-methylbenzaldehyde	n		10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10
300 mg/kg		No abnormality	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10
4-methylbenzaldehyde	n		10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10
1000 mg/kg		No abnormality	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6
		Tremor	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4
		Clonic convulsion	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Test article	Dose	Clinical signs	Day	81		82		83		84		85		86		87		88	
			Time	BA	AA	BA	AA	BA	AA	BA	AA	BA	AA	BA	AA	BA	AA	BA	AA
4-methylbenzaldehyde	n		10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10
0 mg/kg		No abnormality	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10
4-methylbenzaldehyde	n		10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10
100 mg/kg		No abnormality	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10
4-methylbenzaldehyde	n		10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10
300 mg/kg		No abnormality	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10
4-methylbenzaldehyde	n		10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10
1000 mg/kg		No abnormality	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6
		Tremor	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4
		Clonic convulsion	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Test article	Dose	Clinical signs	Day	89		90		91
			Time	BA	AA	BA	AA	N
4-methylbenzaldehyde	n		10	10	10	10	10	
0 mg/kg		No abnormality	10	10	10	10	10	
4-methylbenzaldehyde	n		10	10	10	10	10	
100 mg/kg		No abnormality	10	10	10	10	10	
4-methylbenzaldehyde	n		10	10	10	10	10	
300 mg/kg		No abnormality	10	10	10	10	10	
4-methylbenzaldehyde	n		10	10	10	10	10	
1000 mg/kg		No abnormality	6	6	6	6	5	
		Tremor	4	4	4	4	4	
		Clonic convulsion	0	0	0	0	1	

BA : Before administration, AA : After administration, N : Necropsy day

Table 2 - 1

Study No. : ██████████

Body weight		Period : Administration Day 1-91											
Sex : Male		Unit : g Species : Rat											
Test article	/Day												
Dose		1	4	7	10	14	21	28	35	42	49	56	
4-methylbenzaldehyde 0 mg/kg	n	10	10	10	10	10	10	10	10	10	10	10	
	Mean	203.3	232.3	260.2	287.9	321.7	366.4	407.5	442.6	471.5	499.2	517.9	
	S.D.	7.7	8.4	9.8	9.3	12.0	20.4	25.5	30.9	36.0	37.6	38.0	
4-methylbenzaldehyde 100 mg/kg	n	10	10	10	10	10	10	10	10	10	10	10	
	Mean	202.0	229.8	256.2	281.8	313.6	358.2	394.6	428.9	457.3	481.7	500.6	
	S.D.	6.3	8.8	10.3	11.7	14.9	21.0	25.2	26.5	28.8	29.0	28.8	
4-methylbenzaldehyde 300 mg/kg	n	10	10	10	10	10	10	10	10	10	10	10	
	Mean	202.6	231.1	257.7	283.6	317.0	363.8	404.1	443.0	475.2	504.1	523.2	
	S.D.	7.0	8.9	10.3	11.7	13.6	16.3	18.8	20.9	23.4	26.1	29.6	
4-methylbenzaldehyde 1000 mg/kg	n	10	10	10	10	10	10	10	10	10	10	10	
	Mean	202.4	228.7	255.1	279.5	306.9	347.3	380.9	410.1	433.3	450.3	459.3	
	S.D.	6.5	9.6	11.3	14.7	17.6	25.7	32.5	35.5	36.7	40.5	39.1	
									DT *	DT *	DT **	DT **	
Test article	/Day	Body weight											
Dose		63	70	77	84	90	gain						
4-methylbenzaldehyde 0 mg/kg	n	10	10	10	10	10	10						
	Mean	539.0	558.1	573.4	589.7	598.8	395.5						
	S.D.	40.7	42.5	43.2	45.3	46.3	42.2						
4-methylbenzaldehyde 100 mg/kg	n	10	10	10	10	10	10						
	Mean	521.6	539.2	552.6	566.6	572.3	370.3						
	S.D.	30.4	32.7	32.9	35.6	37.0	34.0						
4-methylbenzaldehyde 300 mg/kg	n	10	10	10	10	10	10						
	Mean	546.1	565.2	582.9	599.7	605.7	403.1						
	S.D.	29.8	32.5	33.6	35.6	36.0	37.9						
4-methylbenzaldehyde 1000 mg/kg	n	10	10	10	10	10	10						
	Mean	471.1	478.7	483.6	491.1	493.2	290.8						
	S.D.	40.7	44.6	51.8	53.9	57.0	53.8						
		DT **	DT **	DT **	DT **	DT **	DT **						

Significantly different from 4-methylbenzaldehyde 0 mg/kg: * P<0.05, ** P<0.01

DT : Dunnett test (two-side)

Table 2 - 2

Study No. : XXXXXXXXXX

		Period : Administration Day 1-91											
Body weight Sex : Female		Unit : g Species : Rat											
Test article	/Day												
Dose		1	4	7	10	14	21	28	35	42	49	56	
4-methylbenzaldehyde 0 mg/kg	n	10	10	10	10	10	10	10	10	10	10	10	
	Mean	183.4	197.3	206.8	219.8	231.2	249.9	267.1	286.3	291.8	303.2	307.2	
	S.D.	9.7	11.6	13.2	16.0	16.9	19.3	18.7	19.5	21.0	23.3	27.1	
4-methylbenzaldehyde 100 mg/kg	n	10	10	10	10	10	10	10	10	10	10	10	
	Mean	184.6	197.1	206.5	221.6	234.1	255.4	269.9	284.4	300.7	313.5	319.5	
	S.D.	7.6	10.4	12.3	14.0	17.1	22.9	27.6	30.2	34.1	36.6	37.2	
4-methylbenzaldehyde 300 mg/kg	n	10	10	10	10	10	10	10	10	10	10	10	
	Mean	182.7	195.7	203.0	216.7	231.4	251.3	268.7	286.0	304.5	318.6	330.2	
	S.D.	9.8	10.3	14.7	17.5	21.3	25.8	27.9	31.2	39.0	43.3	41.3	
4-methylbenzaldehyde 1000 mg/kg	n	10	10	10	10	10	10	10	10	10	10	10	
	Mean	181.2	196.2	207.2	214.3	226.5	245.7	259.4	271.9	274.9	286.8	289.8	
	S.D.	9.3	10.5	11.3	13.2	15.0	19.2	19.7	17.8	16.7	15.4	15.6	
<hr/>													
Test article	/Day	Body weight											
Dose		63	70	77	84	90	gain						
4-methylbenzaldehyde 0 mg/kg	n	10	10	10	10	10	10						
	Mean	319.4	327.5	334.0	341.0	347.3	163.9						
	S.D.	20.2	24.1	24.0	27.2	26.2	21.7						
4-methylbenzaldehyde 100 mg/kg	n	10	10	10	10	10	10						
	Mean	326.4	340.1	348.4	354.4	359.6	175.0						
	S.D.	39.1	43.4	44.9	45.9	47.4	41.4						
4-methylbenzaldehyde 300 mg/kg	n	10	10	10	10	10	10						
	Mean	340.6	349.6	357.2	364.0	369.1	186.4						
	S.D.	46.6	48.7	48.0	46.7	51.5	49.6						
4-methylbenzaldehyde 1000 mg/kg	n	10	10	10	10	10	10						
	Mean	295.4	297.7	306.3	314.4	313.0	131.8						
	S.D.	12.7	15.0	15.0	20.1	18.0	16.7						
		ST *	ST *	ST *		ST **	ST **						

Significantly different from 4-methylbenzaldehyde 0 mg/kg: * P<0.05, ** P<0.01

ST : Steel test (two-side)

Table 3 - 1

Study No. : ██████████

Food consumption		Period : Administration Day 1-91										
Sex : Male		Unit : g										
Species : Rat		Species : Rat										
Test article	/Day											
Dose		4	7	10	14	21	28	35	42	49	56	63
4-methylbenzaldehyde 0 mg/kg	n	10	10	10	10	10	10	10	10	10	10	10
	Mean	23.71	24.76	25.13	25.67	25.04	24.76	24.44	24.06	23.65	23.75	23.26
	S.D.	0.98	1.02	0.87	0.98	1.75	1.75	1.92	2.16	1.92	2.47	2.15
4-methylbenzaldehyde 100 mg/kg	n	10	10	10	10	10	10	10	10	10	10	10
	Mean	23.44	24.56	24.74	24.63	24.96	23.85	23.85	23.62	23.14	23.04	22.51
	S.D.	1.48	1.54	1.59	2.00	1.99	1.39	1.42	1.72	1.26	1.58	1.31
4-methylbenzaldehyde 300 mg/kg	n	10	10	10	10	10	10	10	10	10	10	10
	Mean	23.85	24.35	25.08	25.55	25.83	25.65	25.80	26.14	25.15	25.43	24.89
	S.D.	1.47	1.25	1.32	1.38	1.42	1.17	1.47	1.94	1.40	1.53	1.64
4-methylbenzaldehyde 1000 mg/kg	n	10	10	10	10	10	10	10	10	10	10	10
	Mean	23.44	25.76	26.43	26.86	27.12	26.99	27.10	26.54	25.65	25.92	24.89
	S.D.	2.02	1.84	2.27	2.38	2.53	2.51	2.59	2.06	1.97	1.80	1.90
							DT *	DT **	DT *	DT *	DT *	
Test article	/Day											
Dose		70	77	84	90							
4-methylbenzaldehyde 0 mg/kg	n	10	10	10	10							
	Mean	23.22	23.35	22.62	21.23							
	S.D.	2.19	2.00	1.94	2.00							
4-methylbenzaldehyde 100 mg/kg	n	10	10	10	10							
	Mean	22.35	21.62	21.44	19.37							
	S.D.	1.15	1.08	1.11	1.36							
4-methylbenzaldehyde 300 mg/kg	n	10	10	10	10							
	Mean	24.75	24.60	24.23	22.39							
	S.D.	2.19	1.85	1.76	1.25							
4-methylbenzaldehyde 1000 mg/kg	n	10	10	10	10							
	Mean	24.63	24.85	24.70	23.55							
	S.D.	2.53	2.82	2.41	2.66							
				DT *	DT *							

Significantly different from 4-methylbenzaldehyde 0 mg/kg: * P<0.05, ** P<0.01

DT : Dunnett test (two-side)

Table 3 - 2

Study No. : XXXXXXXXXX

Food consumption		Period : Administration Day 1-91										
Sex : Female		Unit : g Species : Rat										
Test article	/Day	4	7	10	14	21	28	35	42	49	56	63
4-methylbenzaldehyde 0 mg/kg	n	10	10	10	10	10	10	10	10	10	10	10
	Mean	18.23	18.17	19.06	18.16	18.44	18.84	19.16	18.26	17.80	17.22	17.55
	S.D.	1.71	1.72	1.56	1.34	1.24	1.02	2.42	1.51	1.92	1.38	0.90
4-methylbenzaldehyde 100 mg/kg	n	10	10	10	10	10	10	10	10	10	10	10
	Mean	18.01	18.27	19.26	18.30	18.74	19.08	18.71	19.16	17.84	17.12	17.05
	S.D.	1.66	2.19	1.98	2.50	2.82	2.74	2.60	2.49	1.85	1.77	1.95
4-methylbenzaldehyde 300 mg/kg	n	10	10	10	10	10	10	10	10	10	10	10
	Mean	17.77	17.58	18.97	18.58	18.93	19.36	19.72	20.20	19.83	19.71	19.16
	S.D.	1.94	1.78	2.22	2.21	1.79	2.16	2.15	2.19	2.34	1.96	2.40
4-methylbenzaldehyde 1000 mg/kg	n	10	10	10	10	10	10	10	10	10	10	10
	Mean	19.49	20.49	21.06	21.20	21.76	21.67	21.63	21.61	21.52	20.91	21.40
	S.D.	1.37	1.81	1.30	1.42	1.52	1.60	1.16	1.09	1.16	1.17	0.97
			DT *	DT *	DT **	DT **	ST **	DT *	DT **	DT **	DT **	ST **
Test article	/Day	70	77	84	90							
4-methylbenzaldehyde 0 mg/kg	n	10	10	10	10							
	Mean	17.57	17.68	17.39	16.86							
	S.D.	0.95	0.75	1.43	1.94							
4-methylbenzaldehyde 100 mg/kg	n	10	10	10	10							
	Mean	17.79	17.03	16.63	15.73							
	S.D.	2.22	2.23	2.15	2.00							
4-methylbenzaldehyde 300 mg/kg	n	10	10	10	10							
	Mean	18.62	18.24	18.06	16.77							
	S.D.	1.87	1.42	1.43	1.57							
4-methylbenzaldehyde 1000 mg/kg	n	10	10	10	10							
	Mean	20.48	21.48	21.43	20.31							
	S.D.	1.04	1.37	1.86	1.72							
		ST **	ST **	DT **	DT **							

Significantly different from 4-methylbenzaldehyde 0 mg/kg: * P<0.05, ** P<0.01

DT : Dunnett test (two-side), ST : Steel test (two-side)

Table 4 - 1

Study No. : XXXXXXXXXX

Ophthalmology		Species : Rat							
Sex : Male		Period Before the start of administration				Week 13 of administration			
Test article	Findings	SL-R	SL-L	FS-R	FS-L	SL-R	SL-L	FS-R	FS-L
4-methylbenzaldehyde	n	10	10	10	10	5	5	5	5
0 mg/kg	No abnormality	10	10	10	10	5	5	5	5
4-methylbenzaldehyde	n	10	10	10	10	5	5	5	5
100 mg/kg	No abnormality	10	10	10	10	5	5	5	5
4-methylbenzaldehyde	n	10	10	10	10	5	5	5	5
300 mg/kg	No abnormality	10	10	10	10	5	5	5	5
4-methylbenzaldehyde	n	10	10	10	10	5	5	5	5
1000 mg/kg	No abnormality	10	10	10	10	5	5	5	5

SL : Slit lamp examination, FS : Funduscopy

R : Right, L : Left

Table 4 - 2

Study No. : XXXXXXXXXX

Ophthalmology		Species : Rat							
Sex : Female		Period Before the start of administration				Week 13 of administration			
Test article	Findings	SL-R	SL-L	FS-R	FS-L	SL-R	SL-L	FS-R	FS-L
Dose									
4-methylbenzaldehyde	n	10	10	10	10	5	5	5	5
0 mg/kg	No abnormality	10	10	10	10	5	5	5	5
4-methylbenzaldehyde	n	10	10	10	10	5	5	5	5
100 mg/kg	No abnormality	10	10	10	10	5	5	5	5
4-methylbenzaldehyde	n	10	10	10	10	5	5	5	5
300 mg/kg	No abnormality	10	10	10	10	5	5	5	5
4-methylbenzaldehyde	n	10	10	10	10	5	5	5	5
1000 mg/kg	No abnormality	10	10	10	10	5	5	5	5

SL : Slit lamp examination, FS : Funduscopy

R : Right, L : Left

Table 5 - 1

Study No. : XXXXXXXXXX

Urinary findings		Stage : Week 13									Species : Rat
Sex : Male		pH									
Test article	Dose	5.0	6.0	6.5	7.0	7.5	8.0	8.5			
4-methylbenzaldehyde	0 mg/kg	n	0	0	0	0	0	1	4		
4-methylbenzaldehyde	100 mg/kg	n	0	0	0	0	1	3	1		
4-methylbenzaldehyde	300 mg/kg	n	0	0	0	0	0	2	3		
4-methylbenzaldehyde	1000 mg/kg	n	0	0	1	2	2	0	0		

ST \$

Test article	Dose	n	Glucose					Ketone body				
			-	+	2+	3+	-	±	+	2+	3+	
4-methylbenzaldehyde	0 mg/kg	n	5	0	0	0	5	0	0	0	0	
4-methylbenzaldehyde	100 mg/kg	n	5	0	0	0	5	0	0	0	0	
4-methylbenzaldehyde	300 mg/kg	n	EF	0	0	0	EF	0	0	0	0	
4-methylbenzaldehyde	1000 mg/kg	n	EF	0	0	0	EF	0	0	0	0	

Significantly different from 4-methylbenzaldehyde 0 mg/kg: \$ P<0.05

ST : Steel test (two-side)

EF : The averages of all groups are same and all data is 0 in frequency. (all data of all groups is identical.)

Table 5 - 2

Study No. : XXXXXXXXXX

Urinary findings		Stage : Week 13										Species : Rat		
Sex : Male		Urobilinogen					Bilirubin							
Test article	Dose	EU/dL												
		0.1	1	2	4	8	-	+	2+	3+				
4-methylbenzaldehyde	0 mg/kg	n	5	0	0	0	0	5	0	0	0	0	0	0
4-methylbenzaldehyde	100 mg/kg	n	5	0	0	0	0	5	0	0	0	0	0	0
4-methylbenzaldehyde	300 mg/kg	n	EF	0	0	0	0	EF	0	0	0	0	0	0
4-methylbenzaldehyde	1000 mg/kg	n	EF	0	0	0	0	EF	0	0	0	0	0	0
			EF					EF						
		Occult blood												
Test article	Dose													
		-	±	+	2+	3+								
4-methylbenzaldehyde	0 mg/kg	n	4	1	0	0	0	0	0	0	0	0	0	0
4-methylbenzaldehyde	100 mg/kg	n	3	2	0	0	0	0	0	0	0	0	0	0
4-methylbenzaldehyde	300 mg/kg	n	5	0	0	0	0	0	0	0	0	0	0	0
4-methylbenzaldehyde	1000 mg/kg	n	4	1	0	0	0	0	0	0	0	0	0	0

Not significantly different from 4-methylbenzaldehyde 0 mg/kg

EF : The averages of all groups are same and all data is 0 in frequency. (all data of all groups is identical.)

Table 5 - 3

Study No. : XXXXXXXXXX

Urinary findings		Stage : Week 13							Species : Rat	
Sex : Male		Protein								
Test article		-	±	+	2+	3+	4+			
Dose	n									
4-methylbenzaldehyde 0 mg/kg	n	0	0	2	3	0	0			
4-methylbenzaldehyde 100 mg/kg	n	0	0	3	2	0	0			
4-methylbenzaldehyde 300 mg/kg	n	0	2	3	0	0	0			
4-methylbenzaldehyde 1000 mg/kg	n	0	4	1	0	0	0			
ST \$										
		Specific gravity								
Test article		0	1	2	3	4	5			
Dose	n									
4-methylbenzaldehyde 0 mg/kg	n	0	0	0	0	1	4			
4-methylbenzaldehyde 100 mg/kg	n	0	0	0	0	2	3			
4-methylbenzaldehyde 300 mg/kg	n	0	0	0	0	1	4			
4-methylbenzaldehyde 1000 mg/kg	n	0	0	0	1	0	4			

Specific gravity) 0;1.001~1.010,1;1.011~1.020,2;1.021~1.030,3;1.031~1.040,4;1.041~1.050,5;1.050<
Significantly different from 4-methylbenzaldehyde 0 mg/kg: \$ P<0.05
ST : Steel test (two-side)

Table 5 - 4

Study No. : XXXXXXXXXX

Urinary findings		Stage : Week 13										Species : Rat					
Sex : Male		RBC					WBC										
Test article	Dose	n	-	±	+	2+	3+	-	±	+	2+	3+					
4-methylbenzaldehyde	0 mg/kg	n	5	0	0	0	0	5	0	0	0	0					
4-methylbenzaldehyde	100 mg/kg	n	5	0	0	0	0	5	0	0	0	0					
4-methylbenzaldehyde	300 mg/kg	n	EF	0	0	0	0	EF	0	0	0	0					
4-methylbenzaldehyde	1000 mg/kg	n	EF	0	0	0	0	EF	0	0	0	0					
			EF					EF									
		Squamous					Round										
Test article	Dose	n	-	±	+	2+	3+	-	±	+	2+	3+					
4-methylbenzaldehyde	0 mg/kg	n	5	0	0	0	0	5	0	0	0	0					
4-methylbenzaldehyde	100 mg/kg	n	5	0	0	0	0	5	0	0	0	0					
4-methylbenzaldehyde	300 mg/kg	n	4	1	0	0	0	EF	0	0	0	0					
4-methylbenzaldehyde	1000 mg/kg	n	4	1	0	0	0	EF	0	0	0	0					
							EF										

Not significantly different from 4-methylbenzaldehyde 0 mg/kg

EF : The averages of all groups are same and all data is 0 in frequency. (all data of all groups is identical.)

Table 5 - 5

Study No. : XXXXXXXXXX

Urinary findings		Stage : Week 13										
Sex : Male		Small round					Cast					
Test article	Dose	Small round					Cast					
		-	±	+	2+	3+	-	±	+	2+	3+	
4-methylbenzaldehyde	0 mg/kg	n	5	0	0	0	0	5	0	0	0	0
4-methylbenzaldehyde	100 mg/kg	n	5	0	0	0	0	5	0	0	0	0
4-methylbenzaldehyde	300 mg/kg	n	EF	0	0	0	0	EF	0	0	0	0
4-methylbenzaldehyde	1000 mg/kg	n	EF	0	0	0	0	EF	0	0	0	0
			EF					EF				

Not significantly different from 4-methylbenzaldehyde 0 mg/kg

EF : The averages of all groups are same and all data is 0 in frequency. (all data of all groups is identical.)

Table 5 - 6

Study No. : XXXXXXXXXX

Urinary findings		Stage : Week 13				Species : Rat
Sex : Male		Urine volume	U-Na	U-K	U-Cl	
Test article		mL/21hr	mEq/21hr	mEq/21hr	mEq/21hr	
Dose	n					
4-methylbenzaldehyde 0 mg/kg	n	5	5	5	5	
	Mean	7.70	0.884	2.560	1.200	
	S.D.	2.14	0.353	0.536	0.350	
4-methylbenzaldehyde 100 mg/kg	n	5	5	5	5	
	Mean	7.90	0.916	2.546	1.322	
	S.D.	2.53	0.251	0.301	0.303	
4-methylbenzaldehyde 300 mg/kg	n	5	5	5	5	
	Mean	11.20	1.222	2.790	1.370	
	S.D.	3.85	0.285	0.485	0.291	
4-methylbenzaldehyde 1000 mg/kg	n	5	5	5	5	
	Mean	19.80	2.112	3.258	1.446	
	S.D.	5.59	0.264	0.489	0.301	
		DT **	DT **			

Significantly different from 4-methylbenzaldehyde 0 mg/kg: ** P<0.01

DT : Dunnett test (two-side)

Table 5 - 7

Study No. : XXXXXXXXXX

Urinary findings		Stage : Week 13								Species : Rat									
Sex : Female		pH																	
Test article	Dose	n	5.0		6.0		6.5		7.0		7.5		8.0		8.5				
			4-methylbenzaldehyde	0 mg/kg	n	0	0	0	0	1	1	0	0	0	0	0	0	3	
4-methylbenzaldehyde	100 mg/kg	n	0	0	1	0	0	0	0	0	0	0	0	0	4				
4-methylbenzaldehyde	300 mg/kg	n	0	0	1	1	1	1	1	1	1	1	1	1	1				
4-methylbenzaldehyde	1000 mg/kg	n	0	0	0	2	2	1	0	0	0	0	0	0	0				

Test article		Glucose								Ketone body									
Dose	n	-		+		2+		3+		-		±		+		2+		3+	
		4-methylbenzaldehyde	0 mg/kg	n	5	0	0	0	0	0	5	0	0	0	0	0	0	0	0
4-methylbenzaldehyde	100 mg/kg	n	5	0	0	0	0	0	5	0	0	0	0	0	0	0	0		
4-methylbenzaldehyde	300 mg/kg	n	EF	5	0	0	0	0	5	0	0	0	0	0	0	0	0		
4-methylbenzaldehyde	1000 mg/kg	n	EF	5	0	0	0	0	5	0	0	0	0	0	0	0	0		

EF																			

Not significantly different from 4-methylbenzaldehyde 0 mg/kg

EF : The averages of all groups are same and all data is 0 in frequency. (all data of all groups is identical.)

Table 5 - 8

Study No. : XXXXXXXXXX

Urinary findings		Stage : Week 13										Species : Rat			
Sex : Female		Urobilinogen					Bilirubin								
Test article	Dose	EU/dL										n			
		0.1	1	2	4	8	-	+	2+	3+					
4-methylbenzaldehyde	0 mg/kg	n	5	0	0	0	0	0	0	0	5	0	0	0	0
4-methylbenzaldehyde	100 mg/kg	n	5	0	0	0	0	0	0	0	5	0	0	0	0
4-methylbenzaldehyde	300 mg/kg	n	EF	0	0	0	0	0	0	0	EF	0	0	0	0
4-methylbenzaldehyde	1000 mg/kg	n	EF	0	0	0	0	0	0	0	EF	0	0	0	0
			EF								EF				
		Occult blood													
Test article	Dose											n			
		-	±	+	2+	3+	-	±	+	2+	3+				
4-methylbenzaldehyde	0 mg/kg	n	5	0	0	0	0	0	0	0	0	0	0	0	0
4-methylbenzaldehyde	100 mg/kg	n	5	0	0	0	0	0	0	0	0	0	0	0	0
4-methylbenzaldehyde	300 mg/kg	n	EF	0	0	0	0	0	0	0	0	0	0	0	0
4-methylbenzaldehyde	1000 mg/kg	n	EF	0	0	0	0	0	0	0	0	0	0	0	0
			EF												

Not significantly different from 4-methylbenzaldehyde 0 mg/kg

EF : The averages of all groups are same and all data is 0 in frequency. (all data of all groups is identical.)

Table 5 - 9

Study No. : XXXXXXXXXX

Urinary findings		Stage : Week 13							Species : Rat
Sex : Female		Protein							
Test article		-	±	+	2+	3+	4+		
Dose	n								
4-methylbenzaldehyde 0 mg/kg	n	0	1	3	1	0	0		
4-methylbenzaldehyde 100 mg/kg	n	0	1	4	0	0	0		
4-methylbenzaldehyde 300 mg/kg	n	3	1	1	0	0	0		
4-methylbenzaldehyde 1000 mg/kg	n	2	3	0	0	0	0		
ST \$									
		Specific gravity							
Test article		0	1	2	3	4	5		
Dose	n								
4-methylbenzaldehyde 0 mg/kg	n	0	0	0	1	2	2		
4-methylbenzaldehyde 100 mg/kg	n	0	0	0	1	2	2		
4-methylbenzaldehyde 300 mg/kg	n	0	0	1	0	3	1		
4-methylbenzaldehyde 1000 mg/kg	n	0	0	0	2	1	2		

Specific gravity) 0;1.001~1.010,1;1.011~1.020,2;1.021~1.030,3;1.031~1.040,4;1.041~1.050,5;1.050<
Significantly different from 4-methylbenzaldehyde 0 mg/kg: \$ P<0.05
ST : Steel test (two-side)

Table 5 - 10

Study No. : XXXXXXXXXX

Urinary findings		Stage : Week 13										Species : Rat	
Sex : Female		RBC					WBC						
Test article	Dose	-	±	+	2+	3+	-	±	+	2+	3+		
4-methylbenzaldehyde	0 mg/kg	n	5	0	0	0	5	0	0	0	0		
4-methylbenzaldehyde	100 mg/kg	n	5	0	0	0	5	0	0	0	0		
4-methylbenzaldehyde	300 mg/kg	n	EF	0	0	0	EF	0	0	0	0		
4-methylbenzaldehyde	1000 mg/kg	n	EF	0	0	0	EF	0	0	0	0		
			EF				EF						
		Squamous					Round						
Test article	Dose	-	±	+	2+	3+	-	±	+	2+	3+		
4-methylbenzaldehyde	0 mg/kg	n	4	1	0	0	5	0	0	0	0		
4-methylbenzaldehyde	100 mg/kg	n	5	0	0	0	5	0	0	0	0		
4-methylbenzaldehyde	300 mg/kg	n	5	0	0	0	EF	0	0	0	0		
4-methylbenzaldehyde	1000 mg/kg	n	4	0	1	0	EF	0	0	0	0		
							EF						

Not significantly different from 4-methylbenzaldehyde 0 mg/kg

EF : The averages of all groups are same and all data is 0 in frequency. (all data of all groups is identical.)

Table 5 - 11

Study No. : XXXXXXXXXX

Urinary findings		Stage : Week 13										
Sex : Female		Small round					Cast					
Test article	Dose	Small round					Cast					
		-	±	+	2+	3+	-	±	+	2+	3+	
4-methylbenzaldehyde	0 mg/kg	n	5	0	0	0	0	5	0	0	0	0
4-methylbenzaldehyde	100 mg/kg	n	5	0	0	0	0	5	0	0	0	0
4-methylbenzaldehyde	300 mg/kg	n	EF	0	0	0	0	EF	0	0	0	0
4-methylbenzaldehyde	1000 mg/kg	n	EF	0	0	0	0	EF	0	0	0	0
			EF					EF				

Not significantly different from 4-methylbenzaldehyde 0 mg/kg

EF : The averages of all groups are same and all data is 0 in frequency. (all data of all groups is identical.)

Table 5 - 12

Study No. : XXXXXXXXXX

Urinary findings		Stage : Week 13				Species : Rat
Sex : Female		Urine volume	U-Na	U-K	U-Cl	
Test article		mL/21hr	mEq/21hr	mEq/21hr	mEq/21hr	
Dose	n					
4-methylbenzaldehyde 0 mg/kg	n	5	5	5	5	
	Mean	9.40	0.994	2.354	1.356	
	S.D.	3.90	0.196	0.431	0.139	
4-methylbenzaldehyde 100 mg/kg	n	5	5	5	5	
	Mean	8.50	0.848	2.258	1.184	
	S.D.	3.92	0.265	0.589	0.365	
4-methylbenzaldehyde 300 mg/kg	n	5	5	5	5	
	Mean	13.80	1.228	2.602	1.448	
	S.D.	8.33	0.558	0.802	0.542	
4-methylbenzaldehyde 1000 mg/kg	n	5	5	5	5	
	Mean	20.90	1.674	3.116	1.542	
	S.D.	8.47	0.174	0.544	0.261	
		DT *	DT *			

Significantly different from 4-methylbenzaldehyde 0 mg/kg: * P<0.05

DT : Dunnett test (two-side)

Table 6 - 1

Study No. : XXXXXXXXXX

Hematological findings		Stage : Day 91									
Sex : Male		Species : Rat									
		RBC	HGB	HCT	MCV	MCH	MCHC	Reticulocyte	Platelet	WBC	Neutrophil
		10 ⁴ /μL	g/dL	%	fL	pg	g/dL	%	10 ⁴ /μL	10 ² /μL	10 ² /μL
Test article Dose	n	10	10	10	10	10	10	10	10	10	10
	Mean	921.9	15.87	43.88	47.61	17.22	36.17	2.715	108.29	86.94	17.59
	S.D.	52.6	0.80	2.25	0.96	0.33	0.26	0.441	17.52	28.82	8.64
4-methylbenzaldehyde 0 mg/kg	n	10	10	10	10	10	10	10	10	10	10
	Mean	917.5	15.84	43.88	47.86	17.27	36.13	2.621	105.74	94.38	18.28
	S.D.	46.5	0.83	2.56	2.19	0.62	0.45	0.400	7.27	20.78	6.26
4-methylbenzaldehyde 100 mg/kg	n	10	10	10	10	10	10	10	10	10	10
	Mean	883.3	15.82	44.04	49.90	17.93	35.93	2.976	107.35	87.73	15.90
	S.D.	46.4	0.80	2.23	1.84	0.59	0.43	0.412	7.50	22.21	13.79
4-methylbenzaldehyde 300 mg/kg	n	10	10	10	10	10	10	10	10	10	10
	Mean	861.4	15.39	42.71	49.66	17.89	36.04	2.845	95.58	82.62	20.28
	S.D.	51.9	0.61	1.77	2.43	0.73	0.56	0.491	10.23	11.01	7.45
4-methylbenzaldehyde 1000 mg/kg	n	10	10	10	10	10	10	10	10	10	10
	Mean	861.4	15.39	42.71	49.66	17.89	36.04	2.845	95.58	82.62	20.28
	S.D.	51.9	0.61	1.77	2.43	0.73	0.56	0.491	10.23	11.01	7.45
		DT *			DT *						
		Lymphocyte	Monocyte	Eosinophil	Basophil	PT	APTT				
		10 ² /μL	10 ² /μL	10 ² /μL	10 ² /μL	sec	sec				
Test article Dose	n	10	10	10	10	10	10				
	Mean	63.48	4.48	1.37	0.02	18.95	19.29				
	S.D.	27.34	1.85	0.53	0.04	2.37	2.74				
4-methylbenzaldehyde 0 mg/kg	n	10	10	10	10	10	10				
	Mean	70.73	3.88	1.47	0.02	17.77	18.35				
	S.D.	16.58	1.48	0.51	0.04	1.60	2.45				
4-methylbenzaldehyde 100 mg/kg	n	10	10	10	10	10	10				
	Mean	66.71	4.12	0.97	0.03	17.26	17.97				
	S.D.	6.23	2.38	0.71	0.05	1.82	2.46				
4-methylbenzaldehyde 300 mg/kg	n	10	10	10	10	10	10				
	Mean	58.35	3.73	0.25	0.01	15.91	15.58				
	S.D.	13.52	1.62	0.19	0.03	0.69	1.38				
4-methylbenzaldehyde 1000 mg/kg	n	10	10	10	10	10	10				
	Mean	58.35	3.73	0.25	0.01	15.91	15.58				
	S.D.	13.52	1.62	0.19	0.03	0.69	1.38				
				ST **		ST **	DT **				

Significantly different from 4-methylbenzaldehyde 0 mg/kg: * P<0.05, ** P<0.01

DT : Dunnett test (two-side), ST : Steel test (two-side)

Table 6 - 2

Study No. : XXXXXXXXXX

Hematological findings		Stage : Day 91									
Sex : Female		Species : Rat									
		RBC	HGB	HCT	MCV	MCH	MCHC	Reticulocyte	Platelet	WBC	Neutrophil
		10 ⁴ /μL	g/dL	%	fL	pg	g/dL	%	10 ⁴ /μL	10 ² /μL	10 ² /μL
Test article	Dose	n									
4-methylbenzaldehyde 0 mg/kg	n	10	10	10	10	10	10	10	10	10	10
	Mean	807.9	15.19	42.58	52.71	18.80	35.69	2.599	101.31	53.76	7.14
	S.D.	39.6	0.62	1.97	1.24	0.42	0.43	0.474	12.52	14.43	1.45
4-methylbenzaldehyde 100 mg/kg	n	10	10	10	10	10	10	10	10	10	10
	Mean	829.2	15.17	42.50	51.26	18.30	35.69	2.652	98.05	54.19	7.84
	S.D.	30.6	0.71	1.72	1.31	0.49	0.39	0.351	19.45	23.66	5.60
4-methylbenzaldehyde 300 mg/kg	n	9	9	9	9	9	9	9	9	9	9
	Mean	806.6	14.98	42.08	52.19	18.57	35.59	2.641	94.44	53.69	9.23
	S.D.	47.2	0.93	2.51	1.57	0.49	0.42	0.422	10.70	14.67	2.22
4-methylbenzaldehyde 1000 mg/kg	n	10	10	10	10	10	10	10	10	10	10
	Mean	770.6	14.42	39.82	51.79	18.76	36.21	2.892	81.38	56.13	13.02
	S.D.	56.5	0.74	1.83	2.12	0.74	0.39	0.263	31.72	28.27	11.55
				DT *				DT *			
		Lymphocyte	Monocyte	Eosinophil	Basophil	PT	APTT				
		10 ² /μL	10 ² /μL	10 ² /μL	10 ² /μL	sec	sec				
Test article	Dose	n									
4-methylbenzaldehyde 0 mg/kg	n	10	10	10	10	10	10				
	Mean	43.98	1.85	0.79	0.00	15.72	13.08				
	S.D.	12.98	0.68	0.20	0.00	0.67	1.67				
4-methylbenzaldehyde 100 mg/kg	n	10	10	10	10	10	10				
	Mean	43.82	1.77	0.76	0.00	15.84	12.53				
	S.D.	19.55	1.20	0.36	0.00	0.83	1.17				
					EF						
4-methylbenzaldehyde 300 mg/kg	n	9	9	9	9	10	10				
	Mean	41.59	2.04	0.82	0.00	15.82	13.11				
	S.D.	14.86	0.55	0.41	0.00	0.39	1.08				
					EF						
4-methylbenzaldehyde 1000 mg/kg	n	10	10	10	10	10	10				
	Mean	40.79	1.89	0.43	0.00	15.95	12.51				
	S.D.	23.01	0.95	0.18	0.00	1.26	1.41				
				ST **	EF						

Significantly different from 4-methylbenzaldehyde 0 mg/kg: * P<0.05, ** P<0.01

DT : Dunnett test (two-side), ST : Steel test (two-side)

EF : The averages of all groups are same and all data is 0 in frequency. (all data of all groups is identical.)

Table 7 - 1

Study No. : XXXXXXXXXX

Biochemical findings		Stage : Day 91									
Sex : Male		Species : Rat									
		AST	ALT	ALP	γ-GTP	T-Bil	TBA	Glucose	T-Cho	TG	TP
		IU/L	IU/L	IU/L	IU/L	mg/dL	μmol/L	mg/dL	mg/dL	mg/dL	g/dL
Test article Dose	n	10	10	10	10	10	10	10	10	10	10
	Mean	60.8	29.3	300.6	0.43	0.054	11.85	188.4	62.7	61.2	5.60
	S.D.	6.4	5.7	79.7	0.09	0.013	6.10	20.0	14.0	36.8	0.30
4-methylbenzaldehyde 0 mg/kg	n	10	10	10	10	10	10	10	10	10	10
	Mean	69.0	28.4	272.9	0.38	0.057	21.01	179.5	61.0	45.1	5.68
	S.D.	15.7	3.0	51.8	0.15	0.014	14.79	17.1	9.2	15.3	0.19
4-methylbenzaldehyde 100 mg/kg	n	10	10	10	10	10	10	10	10	10	10
	Mean	70.7	29.6	298.5	0.37	0.053	16.54	175.7	76.3	61.4	5.66
	S.D.	18.2	4.2	60.4	0.11	0.012	12.39	17.9	23.2	33.2	0.32
4-methylbenzaldehyde 300 mg/kg	n	10	10	10	10	10	10	10	10	10	10
	Mean	93.5	31.6	413.5	0.35	0.061	23.26	168.5	64.9	58.7	5.59
	S.D.	18.6	5.5	96.5	0.17	0.013	25.59	13.8	7.2	26.7	0.17
		ST **		DT **				DT *			
		UN	Crea	Na	K	Cl	Ca	IP	A/G	Albumin	α1-G
		mg/dL	mg/dL	mEq/L	mEq/L	mEq/L	mg/dL	mg/dL		%	%
Test article Dose	n	10	10	10	10	10	10	10	10	10	10
	Mean	10.94	0.300	144.5	4.788	104.1	9.80	5.98	0.939	48.34	20.81
	S.D.	1.33	0.042	1.1	0.254	1.1	0.49	0.59	0.090	2.33	3.16
4-methylbenzaldehyde 0 mg/kg	n	10	10	10	10	10	10	10	10	10	10
	Mean	10.91	0.293	144.6	4.782	103.9	9.87	6.23	0.902	47.34	22.38
	S.D.	1.62	0.044	1.0	0.265	0.9	0.35	0.66	0.073	2.03	1.56
4-methylbenzaldehyde 100 mg/kg	n	10	10	10	10	10	10	10	10	10	10
	Mean	10.77	0.302	144.6	4.885	104.4	9.77	6.03	0.929	48.12	21.55
	S.D.	1.27	0.044	0.8	0.235	0.8	0.46	0.47	0.059	1.58	2.53
4-methylbenzaldehyde 300 mg/kg	n	10	10	10	10	10	10	10	10	10	10
	Mean	10.31	0.273	144.8	4.615	103.1	9.84	6.17	0.983	49.55	19.00
	S.D.	1.72	0.043	1.1	0.155	0.7	0.39	0.68	0.064	1.56	1.73
						DT *					

Significantly different from 4-methylbenzaldehyde 0 mg/kg: * P<0.05, ** P<0.01

DT : Dunnett test (two-side), ST : Steel test (two-side)

Table 7 - 2

Study No. : XXXXXXXXXX

Biochemical findings		Stage : Day 91			Species : Rat
Sex : Male		α 2-G	β -G	γ -G	
Test article		%	%	%	
Dose					
4-methylbenzaldehyde 0 mg/kg	n	10	10	10	
	Mean	10.31	15.60	4.94	
	S.D.	1.03	1.37	1.55	
4-methylbenzaldehyde 100 mg/kg	n	10	10	10	
	Mean	10.18	15.11	4.99	
	S.D.	0.84	1.13	1.13	
4-methylbenzaldehyde 300 mg/kg	n	10	10	10	
	Mean	10.11	15.25	4.97	
	S.D.	0.93	0.81	0.98	
4-methylbenzaldehyde 1000 mg/kg	n	10	10	10	
	Mean	9.67	15.76	6.02	
	S.D.	1.18	0.76	0.93	

Not significantly different from 4-methylbenzaldehyde 0 mg/kg

Table 7 - 3

Study No. [REDACTED]

Biochemical findings		Stage : Day 91									
Sex : Female		Species : Rat									
		AST	ALT	ALP	γ-GTP	T-Bil	TBA	Glucose	T-Cho	TG	TP
		IU/L	IU/L	IU/L	IU/L	mg/dL	μmol/L	mg/dL	mg/dL	mg/dL	g/dL
Test article Dose	n	10	10	10	10	10	10	10	10	10	10
	Mean	56.8	29.2	112.8	0.37	0.079	17.86	165.7	69.2	23.4	6.27
	S.D.	19.6	23.2	21.6	0.23	0.016	11.99	22.0	11.8	11.5	0.23
4-methylbenzaldehyde 0 mg/kg	n	10	10	10	10	10	10	10	10	10	10
	Mean	58.4	27.1	144.1	0.57	0.076	17.19	177.2	75.5	29.3	6.16
	S.D.	8.4	9.3	30.9	0.29	0.011	9.88	16.2	11.1	12.2	0.25
4-methylbenzaldehyde 100 mg/kg	n	10	10	10	10	10	10	10	10	10	10
	Mean	97.0	41.7	140.6	0.67	0.082	24.11	175.3	71.6	32.8	5.99
	S.D.	100.1	42.3	52.3	0.59	0.011	20.73	20.1	14.9	16.0	0.39
4-methylbenzaldehyde 300 mg/kg	n	10	10	10	10	10	10	10	10	10	10
	Mean	72.6	28.5	215.0	0.73	0.055	12.20	168.4	74.3	24.8	5.66
	S.D.	18.1	5.3	54.4	0.50	0.013	11.76	16.8	12.5	8.3	0.30
4-methylbenzaldehyde 1000 mg/kg	n	10	10	10	10	10	10	10	10	10	10
	Mean	ST *		ST **		DT **					
	S.D.										
		UN	Crea	Na	K	Cl	Ca	IP	A/G	Albumin	α1-G
		mg/dL	mg/dL	mEq/L	mEq/L	mEq/L	mg/dL	mg/dL		%	%
Test article Dose	n	10	10	10	10	10	10	10	10	10	10
	Mean	13.24	0.348	144.1	4.160	105.2	10.25	5.20	1.233	55.19	17.24
	S.D.	2.30	0.049	1.4	0.167	1.2	0.29	0.88	0.076	1.49	1.15
4-methylbenzaldehyde 0 mg/kg	n	10	10	10	10	10	10	10	10	10	10
	Mean	11.47	0.346	143.4	4.163	104.6	10.07	5.20	1.177	53.96	16.92
	S.D.	1.59	0.051	1.2	0.298	1.3	0.25	1.31	0.123	2.57	1.20
4-methylbenzaldehyde 100 mg/kg	n	10	10	10	10	10	10	10	10	10	10
	Mean	12.08	0.362	143.4	4.284	104.6	10.00	5.24	1.194	54.32	16.36
	S.D.	1.68	0.049	1.2	0.184	1.3	0.44	0.69	0.108	2.31	1.87
4-methylbenzaldehyde 300 mg/kg	n	10	10	10	10	10	10	10	10	10	10
	Mean	11.44	0.340	142.6	3.839	103.3	9.75	5.50	1.167	53.75	16.08
	S.D.	2.25	0.057	2.0	0.397	2.1	0.32	0.94	0.095	1.97	1.64
4-methylbenzaldehyde 1000 mg/kg	n	10	10	10	10	10	10	10	10	10	10
	Mean	DT *		DT **							
	S.D.										

Significantly different from 4-methylbenzaldehyde 0 mg/kg: * P<0.05, ** P<0.01

DT : Dunnett test (two-side), ST : Steel test (two-side)

Table 7 - 4

Study No. : XXXXXXXXXX

Biochemical findings		Stage : Day 91		
Sex : Female		Species : Rat		
		α 2-G	β -G	γ -G
		%	%	%
Test article				
Dose				
4-methylbenzaldehyde	n	10	10	10
0 mg/kg	Mean	8.48	12.66	6.43
	S.D.	0.53	1.19	0.98
4-methylbenzaldehyde	n	10	10	10
100 mg/kg	Mean	8.57	13.82	6.73
	S.D.	0.62	1.05	1.14
4-methylbenzaldehyde	n	10	10	10
300 mg/kg	Mean	8.74	14.13	6.45
	S.D.	0.92	1.29	1.24
			DT *	
4-methylbenzaldehyde	n	10	10	10
1000 mg/kg	Mean	8.90	14.26	7.01
	S.D.	0.93	0.77	1.62
			DT **	

Significantly different from 4-methylbenzaldehyde 0 mg/kg: * P<0.05, ** P<0.01

DT : Dunnett test (two-side)

Table 8 - 1

Study No. : XXXXXXXXXX

Necropsy findings		Stage : Day 91				Species : Rat
Sex : Male						
Organ	Test article	4-methylbenzaldehyde	4-methylbenzaldehyde	4-methylbenzaldehyde	4-methylbenzaldehyde	
Findings	Dose	0	100	300	1000	
	Number of Animals	mg/kg	mg/kg	mg/kg	mg/kg	
		10	10	10	10	
Epididymis		<10/10>	<9/10>	<10/10>	<3/10>	
Yellowish white focus, cauda, unilateral	P	0	1	0	2	
Yellowish white focus, cauda, bilateral	P	0	0	0	5	
Other organs & tissues		<10/10>	<10/10>	<10/10>	<10/10>	

<> : Not remarkable/Number of animals examined

P : Non-graded change

Table 8 - 2

Study No. : XXXXXXXXXX

Necropsy findings		Stage : Day 91				Species : Rat
Sex : Female						
Organ	Test article	4-methylbenzaldehyde	4-methylbenzaldehyde	4-methylbenzaldehyde	4-methylbenzaldehyde	
Findings	Dose	0	100	300	1000	
	Number of Animals	mg/kg	mg/kg	mg/kg	mg/kg	
		10	10	10	10	
Lung		<10/10>	<10/10>	<10/10>	<9/10>	
Colored patch, dark red, left lobe	P	0	0	0	1	
Submandibular lymph node		<10/10>	<10/10>	<10/10>	<9/10>	
Red, bilateral	P	0	0	0	1	
Mesenteric lymph node		<10/10>	<10/10>	<10/10>	<9/10>	
Red	P	0	0	0	1	
Other organs & tissues		<10/10>	<10/10>	<10/10>	<10/10>	

<> : Not remarkable/Number of animals examined

P : Non-graded change

Table 9 - 1

Study No. : ██████████

		Organ weight		Stage : Day 91						Species : Rat		
		Sex : Male		Liver		Kidney		Heart		Lung		
Test article	Dose	n	Body weight g	AB	RE	AB	RE	AB	RE	AB	RE	
				g	g/100g	g	g/100g	g	g/100g	g	g/100g	
4-methylbenzaldehyde 0 mg/kg		10	10	10	10	10	10	10	10	10	10	
	Mean	572.8	15.093	2.622	3.317	0.581	1.544	0.270	1.628	0.286		
	S.D.	44.4	2.528	0.271	0.288	0.060	0.119	0.021	0.103	0.022		
4-methylbenzaldehyde 100 mg/kg		10	10	10	10	10	10	10	10	10	10	
	Mean	550.8	14.232	2.579	3.363	0.610	1.594	0.289	1.589	0.289		
	S.D.	36.8	1.543	0.147	0.383	0.051	0.145	0.018	0.107	0.018		
4-methylbenzaldehyde 300 mg/kg		10	10	10	10	10	10	10	10	10	10	
	Mean	580.7	15.434	2.661	3.389	0.587	1.621	0.281	1.693	0.292		
	S.D.	32.7	1.279	0.180	0.189	0.045	0.085	0.021	0.134	0.020		
4-methylbenzaldehyde 1000 mg/kg		10	10	10	10	10	10	10	10	10	10	
	Mean	457.9	14.883	3.252	3.295	0.721	1.571	0.344	1.684	0.371		
	S.D.	56.9	1.942	0.197	0.423	0.041	0.174	0.027	0.190	0.043		
			DT **		DT **		DT **		DT **		ST **	
Test article	Dose	n	Spleen		Thymus		Salivary gland		Adrenal		Pituitary gland	
			AB mg	RE mg/100g	AB mg	RE mg/100g	AB mg	RE mg/100g	AB mg	RE mg/100g	AB mg	RE mg/100g
4-methylbenzaldehyde 0 mg/kg		10	10	10	10	10	10	10	10	10	10	10
	Mean	711.8	124.652	295.6	51.042	758.0	132.625	64.2	11.172	12.52	2.195	
	S.D.	94.5	17.407	90.3	12.527	104.9	18.127	12.1	1.710	1.83	0.346	
4-methylbenzaldehyde 100 mg/kg		10	10	10	10	10	10	10	10	10	10	10
	Mean	739.3	134.126	283.6	51.704	746.3	135.888	55.2	10.080	10.74	1.947	
	S.D.	106.8	16.038	90.0	17.007	98.8	18.936	9.0	1.966	1.33	0.170	
											DT *	
4-methylbenzaldehyde 300 mg/kg		10	10	10	10	10	10	10	10	10	10	10
	Mean	741.0	128.040	326.3	56.272	777.1	134.102	59.1	10.196	11.86	2.049	
	S.D.	68.6	14.264	45.0	7.908	80.6	15.022	5.5	1.004	1.06	0.214	
4-methylbenzaldehyde 1000 mg/kg		10	10	10	10	10	10	10	10	10	10	10
	Mean	694.5	151.753	280.1	60.864	687.7	151.662	54.1	11.883	10.38	2.281	
	S.D.	111.8	15.954	82.8	15.359	100.6	24.657	8.6	1.823	1.72	0.364	
											DT **	

AB : Absolute weight, RE : Relative weight by body weight

Significantly different from 4-methylbenzaldehyde 0 mg/kg: * P<0.05, ** P<0.01

DT : Dunnett test (two-side), ST : Steel test (two-side)

Table 9 - 2

Study No. : ██████████

Organ weight Sex : Male		Stage : Day 91									
		Thyroid		Testis		Epididymis		Prostate		Seminal vesicle	
Test article		AB	RE	AB	RE	AB	RE	AB	RE	AB	RE
Dose		mg	mg/100g	g	g/100g	g	g/100g	mg	mg/100g	g	g/100g
4-methylbenzaldehyde 0 mg/kg	n	10	10	10	10	10	10	10	10	10	10
	Mean	25.14	4.417	3.355	0.586	1.389	0.243	750.7	131.883	2.205	0.388
	S.D.	2.98	0.663	0.398	0.061	0.178	0.031	199.7	34.886	0.318	0.067
4-methylbenzaldehyde 100 mg/kg	n	10	10	10	10	10	10	10	10	10	10
	Mean	21.66	3.950	3.248	0.592	1.374	0.250	598.6	108.883	2.145	0.391
	S.D.	5.20	0.969	0.167	0.033	0.147	0.027	210.0	38.823	0.246	0.054
4-methylbenzaldehyde 300 mg/kg	n	10	10	10	10	10	10	10	10	10	10
	Mean	21.64	3.745	3.372	0.584	1.382	0.239	808.1	138.177	2.227	0.385
	S.D.	2.45	0.536	0.260	0.069	0.100	0.026	218.2	31.294	0.276	0.053
4-methylbenzaldehyde 1000 mg/kg	n	10	10	10	10	10	10	10	10	10	10
	Mean	23.75	5.213	2.866	0.632	1.760	0.393	746.5	164.419	2.177	0.480
	S.D.	4.94	1.080	0.243	0.059	0.608	0.147	151.9	34.240	0.258	0.063
				DT **			ST *				DT **
Brain											
Test article		AB	RE								
Dose		g	g/100g								
4-methylbenzaldehyde 0 mg/kg	n	10	10								
	Mean	2.214	0.389								
	S.D.	0.082	0.030								
4-methylbenzaldehyde 100 mg/kg	n	10	10								
	Mean	2.171	0.395								
	S.D.	0.121	0.037								
4-methylbenzaldehyde 300 mg/kg	n	10	10								
	Mean	2.156	0.371								
	S.D.	0.141	0.025								
4-methylbenzaldehyde 1000 mg/kg	n	10	10								
	Mean	2.093	0.463								
	S.D.	0.077	0.053								
				DT **							

AB : Absolute weight, RE : Relative weight by body weight

Significantly different from 4-methylbenzaldehyde 0 mg/kg: * P<0.05, ** P<0.01

DT : Dunnett test (two-side), ST : Steel test (two-side)

Table 9 - 3

Study No. : ██████████

		Organ weight Sex : Female		Stage : Day 91						Species : Rat	
		Body weight g	Liver		Kidney		Heart		Lung		
Test article Dose	n		AB g	RE g/100g	AB g	RE g/100g	AB g	RE g/100g	AB g	RE g/100g	
4-methylbenzaldehyde 0 mg/kg	n	10	10	10	10	10	10	10	10	10	
	Mean	328.2	8.047	2.458	2.116	0.647	1.052	0.321	1.250	0.383	
	S.D.	25.8	0.566	0.173	0.175	0.051	0.067	0.022	0.085	0.030	
4-methylbenzaldehyde 100 mg/kg	n	10	10	10	10	10	10	10	10	10	
	Mean	339.9	7.896	2.319	2.005	0.594	1.020	0.302	1.246	0.370	
	S.D.	45.4	1.199	0.131	0.229	0.056	0.110	0.029	0.109	0.041	
4-methylbenzaldehyde 300 mg/kg	n	10	10	10	10	10	10	10	10	10	
	Mean	349.4	8.497	2.431	2.008	0.580	1.048	0.299	1.270	0.367	
	S.D.	47.4	1.242	0.105	0.193	0.063	0.146	0.021	0.118	0.046	
4-methylbenzaldehyde 1000 mg/kg	n	10	10	10	10	10	10	10	10	10	
	Mean	288.4	9.417	3.269	2.165	0.753	1.077	0.376	1.210	0.420	
	S.D.	16.1	0.812	0.263	0.220	0.080	0.093	0.042	0.109	0.033	
		ST **	DT *	ST **		DT **		DT **			
		Spleen		Thymus		Salivary gland		Adrenal		Pituitary gland	
Test article Dose	n	AB mg	RE mg/100g	AB mg	RE mg/100g	AB mg	RE mg/100g	AB mg	RE mg/100g	AB mg	RE mg/100g
4-methylbenzaldehyde 0 mg/kg	n	10	10	10	10	10	10	10	10	10	10
	Mean	513.5	157.628	256.7	78.364	474.0	144.435	70.3	21.535	16.56	5.084
	S.D.	53.6	22.622	50.9	14.533	80.8	22.050	9.9	3.570	3.17	1.119
4-methylbenzaldehyde 100 mg/kg	n	10	10	10	10	10	10	10	10	10	10
	Mean	505.9	149.307	274.5	80.267	463.3	137.931	71.3	21.233	16.23	4.850
	S.D.	77.9	16.827	71.8	14.729	38.6	17.003	11.0	3.627	3.11	1.114
4-methylbenzaldehyde 300 mg/kg	n	10	10	10	10	10	10	10	10	10	10
	Mean	511.0	146.322	269.9	77.414	481.7	140.661	74.5	21.820	15.84	4.545
	S.D.	90.9	17.273	76.8	19.527	64.3	29.764	8.9	4.778	2.95	0.713
4-methylbenzaldehyde 1000 mg/kg	n	10	10	10	10	10	10	10	10	10	10
	Mean	543.7	188.491	248.5	85.952	492.5	170.897	81.6	28.487	13.00	4.533
	S.D.	64.6	19.483	58.7	18.259	64.6	21.530	13.6	5.641	2.42	0.935
			DT **			DT *		DT **		DT *	

AB : Absolute weight, RE : Relative weight by body weight

Significantly different from 4-methylbenzaldehyde 0 mg/kg: * P<0.05, ** P<0.01

DT : Dunnett test (two-side), ST : Steel test (two-side)

Table 9 - 4

Study No. [REDACTED]

Organ weight Sex : Female		Stage : Day 91							
		Thyroid		Ovary		Uterus		Brain	
Test article		AB	RE	AB	RE	AB	RE	AB	RE
Dose	n	mg	mg/100g	mg	mg/100g	mg	mg/100g	g	g/100g
4-methylbenzaldehyde 0 mg/kg	n	10	10	10	10	10	10	10	10
	Mean	18.72	5.709	102.1	31.229	743.0	227.267	2.053	0.628
	S.D.	3.13	0.907	15.4	5.117	214.1	67.084	0.064	0.048
4-methylbenzaldehyde 100 mg/kg	n	10	10	10	10	10	10	10	10
	Mean	19.34	5.856	88.6	26.365	714.6	213.555	2.088	0.624
	S.D.	3.45	1.613	16.7	5.600	224.8	75.365	0.083	0.090
4-methylbenzaldehyde 300 mg/kg	n	10	10	10	10	10	10	10	10
	Mean	18.88	5.534	101.0	29.142	728.3	207.324	2.053	0.598
	S.D.	4.31	1.729	24.4	6.704	324.8	83.570	0.123	0.089
4-methylbenzaldehyde 1000 mg/kg	n	10	10	10	10	10	10	10	10
	Mean	20.27	7.035	90.8	31.460	698.6	242.769	2.055	0.716
	S.D.	3.95	1.322	21.4	7.140	296.6	106.466	0.060	0.053

AB : Absolute weight, RE : Relative weight by body weight

Significantly different from 4-methylbenzaldehyde 0 mg/kg: * P<0.05

DT : Dunnett test (two-side)

Table 10 - 1

Study No. : XXXXXXXXXX

Histopathological findings		Stage : Day 91															Species:Rat				
Sex : Male																					
Organ Findings	Test article	4-methylbenzaldehyde					4-methylbenzaldehyde					4-methylbenzaldehyde					4-methylbenzaldehyde				
	Dose	0 mg/kg					100 mg/kg					300 mg/kg					1000 mg/kg				
	Number of Animals	10					10					10					10				
	Grade	-	1+	2+	3+	4+	-	1+	2+	3+	4+	-	1+	2+	3+	4+	-	1+	2+	3+	4+
Lung		10	<10>				0	<0>				0	<0>				10	<10>			
Nasal cavity Mineralization		10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	9	1	0	0	0
Bronchus		10	<10>				0	<0>				0	<0>				10	<10>			
Trachea		10	<10>				0	<0>				0	<0>				10	<10>			
Tongue		10	<10>				0	<0>				0	<0>				10	<10>			
Submandibular gland Decrease, secretory granule, granular duct		10	0	0	0	0	10	0	0	0	0	10	0	0	0	0	5	5	0	0	0
Sublingual gland		10	<10>				10	<10>				10	<10>				10	<10>			
Esophagus		10	<10>				0	<0>				0	<0>				10	<10>			
Stomach Hyperkeratosis, forestomach		10	0	0	0	0	10	0	0	0	0	10	0	0	0	0	6	4	0	0	0
Hyperkeratosis, limiting ridge		10	0	0	0	0	10	0	0	0	0	10	0	0	0	0	7	3	0	0	0
Duodenum		10	<10>				0	<0>				0	<0>				10	<10>			
Jejunum		10	<10>				0	<0>				0	<0>				10	<10>			
Ileum		10	<10>				0	<0>				0	<0>				10	<10>			
Cecum		10	<10>				0	<0>				0	<0>				10	<10>			

<> : Number of animals examined

- : Not remarkable

1+ : Slight, 2+ : Mild, 3+ : Moderate, 4+ : Severe

Table 10 - 2

Study No. : ██████████

Histopathological findings		Stage : Day 91																				Species:Rat
Sex : Male		4-methylbenzaldehyde					4-methylbenzaldehyde					4-methylbenzaldehyde					4-methylbenzaldehyde					
Test article		0 mg/kg					100 mg/kg					300 mg/kg					1000 mg/kg					
Dose		10					10					10					10					
Number of Animals																						
Grade		-	1+	2+	3+	4+	-	1+	2+	3+	4+	-	1+	2+	3+	4+	-	1+	2+	3+	4+	
Colon		10	<10>				0	<0>				0	<0>				10	<10>				
Rectum		10	<10>				0	<0>				0	<0>				10	<10>				
Pancreas		10	<10>				0	<0>				0	<0>				10	<10>				
Liver			<10>					<0>					<0>					<10>				
Microgranuloma		9	1	0	0	0	0	0	0	0	0	0	0	0	0	0	10	0	0	0	0	
Heart			<10>					<0>					<0>					<10>				
Infiltration, inflammatory cell, focal		7	3	0	0	0	0	0	0	0	0	0	0	0	0	0	5	4	1	0	0	
Thoracic aorta		10	<10>				0	<0>				0	<0>				10	<10>				
Kidney			<10>					<10>					<10>					<10>				
Cast, hyaline		9	1	0	0	0	9	1	0	0	0	9	1	0	0	0	10	0	0	0	0	
Vacuolation, renal pelvic mucosa		10	0	0	0	0	10	0	0	0	0	10	0	0	0	0	8	2	0	0	0	
Infiltration, inflammatory cell, interstitium, focal		10	0	0	0	0	10	0	0	0	0	10	0	0	0	0	9	1	0	0	0	
Basophilic change, renal tubule, focal		9	1	0	0	0	10	0	0	0	0	7	3	0	0	0	8	2	0	0	0	
Urinary bladder			<10>					<10>					<10>					<10>				
Vacuolation, urothelium		10	0	0	0	0	10	0	0	0	0	10	0	0	0	0	0	7	3	0	0	
Testis			<10>					<0>					<0>					<10>				
Degeneration, seminiferous tubule		10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	9	1	0	0	0	

<> : Number of animals examined

- : Not remarkable

1+ : Slight, 2+ : Mild, 3+ : Moderate, 4+ : Severe

Table 10 - 3

Study No. : XXXXXXXXXX

Histopathological findings		Stage : Day 91																				Species:Rat
Sex : Male																						
Organ	Test article	4-methylbenzaldehyde					4-methylbenzaldehyde					4-methylbenzaldehyde					4-methylbenzaldehyde					Number of Animals
	Dose	0 mg/kg					100 mg/kg					300 mg/kg					1000 mg/kg					
Findings	Grade	-	1+	2+	3+	4+	-	1+	2+	3+	4+	-	1+	2+	3+	4+	-	1+	2+	3+	4+	10
Epididymis		<10>					<10>					<10>					<10>					
	Granuloma, spermatic	10	0	0	0	0	9	1	0	0	0	10	0	0	0	0	3	7	0	0	0	
	Cribriform change	10	0	0	0	0	10	0	0	0	0	10	0	0	0	0	0	10	0	0	0	
	Decrease, spermatozoa	10	0	0	0	0	10	0	0	0	0	10	0	0	0	0	0	10	0	0	0	
Prostate		<10>					<0>					<0>					<10>					
	Infiltration, inflammatory cell	5	3	2	0	0	0	0	0	0	0	0	0	0	0	0	9	0	1	0	0	
Seminal vesicle		<10>					<0>					<0>					<10>					
		10					0					0					10					
Coagulating gland		<10>					<0>					<0>					<10>					
		10					0					0					10					
Cerebrum		<10>					<0>					<0>					<10>					
		10					0					0					10					
Cerebellum		<10>					<0>					<0>					<10>					
		10					0					0					10					
Spinal cord		<10>					<0>					<0>					<10>					
		10					0					0					10					
Sciatic nerve		<10>					<10>					<10>					<10>					
	Degeneration, axonal, focal	10	0	0	0	0	10	0	0	0	0	10	0	0	0	0	4	6	0	0	0	
Spleen		<10>					<0>					<0>					<10>					
		10					0					0					10					
Thymus		<10>					<0>					<0>					<10>					
		10					0					0					10					
Bone marrow, sternum		<10>					<0>					<0>					<10>					
		10					0					0					10					
Bone marrow, femur		<10>					<0>					<0>					<10>					
		10					0					0					10					
Submandibular lymph node		<10>					<0>					<0>					<10>					
		10					0					0					10					

<> : Number of animals examined

- : Not remarkable

1+ : Slight, 2+ : Mild, 3+ : Moderate, 4+ : Severe

Table 10 - 4

Study No. : XXXXXXXXXX

Histopathological findings		Stage : Day 91																				Species:Rat
Sex : Male		4-methylbenzaldehyde					4-methylbenzaldehyde					4-methylbenzaldehyde					4-methylbenzaldehyde					
Test article		0 mg/kg					100 mg/kg					300 mg/kg					1000 mg/kg					
Dose		10					10					10					10					
Organ	Number of Animals	-	1+	2+	3+	4+	-	1+	2+	3+	4+	-	1+	2+	3+	4+	-	1+	2+	3+	4+	
Findings	Grade	<10>					<0>					<0>					<10>					
Mesenteric lymph node		10					0					0					10					
Peyer's patch																						
Mineralization		10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	8	2	0	0	0	
Pituitary gland																						
Remnant, craniopharyngeal duct		8	2	0	0	0	0	0	0	0	0	0	0	0	0	0	9	0	1	0	0	
Cyst, pars distalis		9	1	0	0	0	0	0	0	0	0	0	0	0	0	0	10	0	0	0	0	
Thyroid																						
Remnant, ultimobranchial body		7	3	0	0	0	0	0	0	0	0	0	0	0	0	0	10	0	0	0	0	
Parathyroid																						
Cyst		9	1	0	0	0	0	0	0	0	0	0	0	0	0	0	10	0	0	0	0	
Adrenal		10					0					0					10					
Eyeball																						
Dysplasia, retina		9	1	0	0	0	0	0	0	0	0	0	0	0	0	0	10	0	0	0	0	
Harderian gland		10					0					0					10					
Zymbal's gland		10					0					0					10					
Skeletal muscle																						
Degeneration, muscular, focal		10	0	0	0	0	10	0	0	0	0	10	0	0	0	0	6	4	0	0	0	
Sternum																						
Increase, trabecular		10	0	0	0	0	10	0	0	0	0	10	0	0	0	0	3	7	0	0	0	
Femur																						
Increase, trabecular		10	0	0	0	0	10	0	0	0	0	10	0	0	0	0	5	5	0	0	0	
Skin		10					0					0					10					

<> : Number of animals examined

- : Not remarkable

1+ : Slight, 2+ : Mild, 3+ : Moderate, 4+ : Severe

Table 10 - 5

Study No. : ██████████

Histopathological findings		Stage : Day 91				Species:Rat
Sex : Male						
Test article	4-methylbenzaldehyde	4-methylbenzaldehyde	4-methylbenzaldehyde	4-methylbenzaldehyde	4-methylbenzaldehyde	
Dose	0	100	300	1000		
Number of Animals	10	10	10	10	10	
Organ						
Findings	Grade	-	1+	2+	3+	4+
Mammary gland	<10>	10				
	<0>	0				
	<0>	0				
	<10>	10				

<> : Number of animals examined

- : Not remarkable

1+ : Slight, 2+ : Mild, 3+ : Moderate, 4+ : Severe

Table 10 - 6

Study No. : XXXXXXXXXX

Histopathological findings		Stage : Day 91																				Species:Rat
Sex : Female		4-methylbenzaldehyde					4-methylbenzaldehyde					4-methylbenzaldehyde					4-methylbenzaldehyde					
Test article		0 mg/kg					100 mg/kg					300 mg/kg					1000 mg/kg					
Dose		10					10					10					10					
Number of Animals																						
Grade		-	1+	2+	3+	4+	-	1+	2+	3+	4+	-	1+	2+	3+	4+	-	1+	2+	3+	4+	
Organ	Findings	<10>					<0>					<0>					<10>					
Lung	Hemorrhage, focal	10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	9	1	0	0	0	
	Accumulation, macrophage, alveolar	8	2	0	0	0	0	0	0	0	0	0	0	0	0	0	10	0	0	0	0	
Nasal cavity		10	<10>				0	<0>				0	<0>				10	<10>				
Bronchus		10	<10>				0	<0>				0	<0>				10	<10>				
Trachea		10	<10>				0	<0>				0	<0>				10	<10>				
Tongue		10	<10>				0	<0>				0	<0>				10	<10>				
Submandibular gland	Decrease, secretory granule, granular duct	10	0	0	0	0	10	0	0	0	0	10	0	0	0	0	9	1	0	0	0	
Sublingual gland		10	<10>				10	<10>				10	<10>				10	<10>				
Esophagus		10	<10>				0	<0>				0	<0>				10	<10>				
Stomach	Hyperkeratosis, forestomach	10	0	0	0	0	10	0	0	0	0	10	0	0	0	0	7	3	0	0	0	
Duodenum		10	<10>				0	<0>				0	<0>				10	<10>				
Jejunum		10	<10>				0	<0>				0	<0>				10	<10>				
Ileum		10	<10>				0	<0>				0	<0>				10	<10>				
Cecum		10	<10>				0	<0>				0	<0>				10	<10>				

<> : Number of animals examined

- : Not remarkable

1+ : Slight, 2+ : Mild, 3+ : Moderate, 4+ : Severe

Table 10 - 7

Study No. : XXXXXXXXXX

Histopathological findings		Stage : Day 91															Species:Rat				
Sex : Female		4-methylbenzaldehyde					4-methylbenzaldehyde					4-methylbenzaldehyde					4-methylbenzaldehyde				
Test article		0 mg/kg					100 mg/kg					300 mg/kg					1000 mg/kg				
Dose		10					10					10					10				
Organ	Number of Animals	-	1+	2+	3+	4+	-	1+	2+	3+	4+	-	1+	2+	3+	4+	-	1+	2+	3+	4+
Findings	Grade	<10>					<0>					<0>					<10>				
Colon		10					0					0					10				
Rectum		10					0					0					10				
Pancreas		10					0					0					10				
Liver																					
Microgranuloma		7	3	0	0	0	0	0	0	0	0	0	0	0	0	0	9	1	0	0	0
Heart																					
Infiltration, inflammatory cell, focal		8	2	0	0	0	0	0	0	0	0	0	0	0	0	0	8	2	0	0	0
Thoracic aorta		10					0					0					10				
Kidney																					
Infiltration, inflammatory cell, renal pelvic mucosa		9	1	0	0	0	10	0	0	0	0	10	0	0	0	0	10	0	0	0	0
Mineralization, cortex		9	1	0	0	0	10	0	0	0	0	10	0	0	0	0	10	0	0	0	0
Vacuolation, renal pelvic mucosa		10	0	0	0	0	10	0	0	0	0	10	0	0	0	0	9	1	0	0	0
Basophilic change, renal tubule, focal		10	0	0	0	0	10	0	0	0	0	9	1	0	0	0	10	0	0	0	0
Urinary bladder																					
Vacuolation, urothelium		10	0	0	0	0	10	0	0	0	0	10	0	0	0	0	1	6	3	0	0
Ovary		10					0					0					10				
Oviduct		10					0					0					10				
Uterine horn		10					0					0					10				

<> : Number of animals examined

- : Not remarkable

1+ : Slight, 2+ : Mild, 3+ : Moderate, 4+ : Severe

Table 10 - 8

Study No. : XXXXXXXXXX

Histopathological findings		Stage : Day 91															Species:Rat											
Sex : Female																												
Organ	Test article	4-methylbenzaldehyde					4-methylbenzaldehyde					4-methylbenzaldehyde					4-methylbenzaldehyde											
	Dose	0 mg/kg					100 mg/kg					300 mg/kg					1000 mg/kg											
Findings	Number of Animals	10					10					10					10											
	Grade	-	1+	2+	3+	4+	-	1+	2+	3+	4+	-	1+	2+	3+	4+	-	1+	2+	3+	4+							
Uterine cervix		10	<10>				0	<0>				0	<0>				10	<10>										
Vagina		10	<10>				0	<0>				0	<0>				10	<10>										
Cerebrum		10	<10>				0	<0>				0	<0>				10	<10>										
Cerebellum		10	<10>				0	<0>				0	<0>				10	<10>										
Spinal cord		10	<10>				0	<0>				0	<0>				10	<10>										
Sciatic nerve	Degeneration, axonal, focal	10	<10>	0	0	0	0	0	10	<10>	0	0	0	0	0	10	<10>	0	0	0	0	0	5	5	0	0	0	0
Spleen		10	<10>				0	<0>				0	<0>				10	<10>										
Thymus	Remnant, epithelial cell	8	<10>	2	0	0	0	0	0	<0>	0	0	0	0	0	0	<0>	0	0	0	0	0	9	1	0	0	0	0
Bone marrow, sternum		10	<10>				0	<0>				0	<0>				10	<10>										
Bone marrow, femur		10	<10>				0	<0>				0	<0>				10	<10>										
Submandibular lymph node	Absorption, blood	10	<10>	0	0	0	0	0	0	<0>	0	0	0	0	0	0	<0>	0	0	0	0	0	9	1	0	0	0	0
Mesenteric lymph node	Absorption, blood	10	<10>	0	0	0	0	0	0	<0>	0	0	0	0	0	0	<0>	0	0	0	0	0	9	1	0	0	0	0

<> : Number of animals examined

- : Not remarkable

1+ : Slight, 2+ : Mild, 3+ : Moderate, 4+ : Severe

Table 10 - 9

Study No. : XXXXXXXXXX

Histopathological findings		Stage : Day 91																				Species:Rat
Sex : Female		4-methylbenzaldehyde					4-methylbenzaldehyde					4-methylbenzaldehyde					4-methylbenzaldehyde					
Test article		0 mg/kg					100 mg/kg					300 mg/kg					1000 mg/kg					
Dose		10					10					10					10					
Organ	Number of Animals																					
Findings	Grade	-	1+	2+	3+	4+	-	1+	2+	3+	4+	-	1+	2+	3+	4+	-	1+	2+	3+	4+	
Peyer's patch		<10>					<0>					<0>					<10>					
Mineralization		6	4	0	0	0	0	0	0	0	0	0	0	0	0	0	10	0	0	0	0	
Pituitary gland		<10>					<0>					<0>					<10>					
		10					0					0					10					
Thyroid		<10>					<0>					<0>					<10>					
Remnant, ultimobranchial body		6	4	0	0	0	0	0	0	0	0	0	0	0	0	0	5	5	0	0	0	
Parathyroid		<10>					<0>					<0>					<10>					
		10					0					0					10					
Adrenal		<10>					<0>					<0>					<10>					
		10					0					0					10					
Eyeball		<10>					<0>					<0>					<10>					
Atrophy, retina, focal		9	1	0	0	0	0	0	0	0	0	0	0	0	0	0	10	0	0	0	0	
Dysplasia, retina		9	1	0	0	0	0	0	0	0	0	0	0	0	0	0	10	0	0	0	0	
Harderian gland		<10>					<0>					<0>					<10>					
		10					0					0					10					
Zymbal's gland		<10>					<0>					<0>					<10>					
		10					0					0					10					
Skeletal muscle		<10>					<10>					<10>					<10>					
Degeneration, muscular, focal		10	0	0	0	0	10	0	0	0	0	10	0	0	0	0	7	3	0	0	0	
Sternum		<10>					<10>					<10>					<10>					
Increase, trabecular		10	0	0	0	0	10	0	0	0	0	10	0	0	0	0	5	5	0	0	0	
Femur		<10>					<10>					<10>					<10>					
Increase, trabecular		10	0	0	0	0	10	0	0	0	0	10	0	0	0	0	1	9	0	0	0	
Skin		<10>					<0>					<0>					<10>					
		10					0					0					10					
Mammary gland		<10>					<0>					<0>					<10>					
		10					0					0					10					

<> : Number of animals examined

- : Not remarkable

1+ : Slight, 2+ : Mild, 3+ : Moderate, 4+ : Severe

Clinical sign Sex : Male		Period : Administration Day 1-91 Dose : 4-methylbenzaldehyde 0 mg/kg Species : Rat																		
Animal No.	Clinical signs	Day	1		2		3		4		5		6		7		8		9	
		Time	BA	AA	BA	AA	BA	AA	BA	AA	BA	AA	BA	AA	BA	AA	BA	AA	BA	AA
10101	No abnormality	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
10102	No abnormality	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
10103	No abnormality	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
10104	No abnormality	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
10105	No abnormality	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
10106	No abnormality	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
10107	No abnormality	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
10108	No abnormality	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
10109	No abnormality	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
10110	No abnormality	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Animal No.	Clinical signs	Day	10		11		12		13		14		15		16		17		18	
		Time	BA	AA	BA	AA	BA	AA	BA	AA	BA	AA	BA	AA	BA	AA	BA	AA	BA	AA
10101	No abnormality	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
10102	No abnormality	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
10103	No abnormality	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
10104	No abnormality	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
10105	No abnormality	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
10106	No abnormality	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
10107	No abnormality	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
10108	No abnormality	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
10109	No abnormality	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
10110	No abnormality	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Animal No.	Clinical signs	Day	19		20		21		22		23		24		25		26		27	
		Time	BA	AA	BA	AA	BA	AA	BA	AA	BA	AA	BA	AA	BA	AA	BA	AA	BA	AA
10101	No abnormality	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
10102	No abnormality	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
10103	No abnormality	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
10104	No abnormality	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
10105	No abnormality	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
10106	No abnormality	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
10107	No abnormality	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
10108	No abnormality	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
10109	No abnormality	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
10110	No abnormality	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

BA : Before administration, AA : After administration

Clinical sign Sex : Male		Period : Administration Day 1-91 Dose : 4-methylbenzaldehyde 0 mg/kg																Species : Rat			
Animal No.	Clinical signs	Day 28		29		30		31		32		33		34		35		36			
		Time	BA	AA	BA	AA	BA	AA	BA	AA	BA	AA	BA	AA	BA	AA	BA	AA	BA	AA	
10101	No abnormality	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
10102	No abnormality	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
10103	No abnormality	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
10104	No abnormality	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
10105	No abnormality	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
10106	No abnormality	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
10107	No abnormality	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
10108	No abnormality	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
10109	No abnormality	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
10110	No abnormality	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	

Animal No.	Clinical signs	Day 37		38		39		40		41		42		43		44		45		
		Time	BA	AA	BA	AA	BA	AA	BA	AA	BA	AA	BA	AA	BA	AA	BA	AA	BA	AA
10101	No abnormality	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
10102	No abnormality	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
10103	No abnormality	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
10104	No abnormality	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
10105	No abnormality	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
10106	No abnormality	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
10107	No abnormality	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
10108	No abnormality	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
10109	No abnormality	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
10110	No abnormality	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Animal No.	Clinical signs	Day 46		47		48		49		50		51		52		53		54		
		Time	BA	AA	BA	AA	BA	AA	BA	AA	BA	AA	BA	AA	BA	AA	BA	AA	BA	AA
10101	No abnormality	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
10102	No abnormality	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
10103	No abnormality	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
10104	No abnormality	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
10105	No abnormality	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
10106	No abnormality	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
10107	No abnormality	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
10108	No abnormality	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
10109	No abnormality	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
10110	No abnormality	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

BA : Before administration, AA : After administration

Clinical sign Sex : Male		Period : Administration Day 1-91 Dose : 4-methylbenzaldehyde 0 mg/kg																Species : Rat			
Animal No.	Clinical signs	Day	55		56		57		58		59		60		61		62		63		
		Time	BA	AA	BA	AA	BA	AA	BA	AA	BA	AA	BA	AA	BA	AA	BA	AA	BA	AA	
10101	No abnormality	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
10102	No abnormality	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
10103	No abnormality	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
10104	No abnormality	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
10105	No abnormality	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
10106	No abnormality	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
10107	No abnormality	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
10108	No abnormality	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
10109	No abnormality	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
10110	No abnormality	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	

Animal No.	Clinical signs	Day	64		65		66		67		68		69		70		71		72	
		Time	BA	AA	BA	AA	BA	AA	BA	AA	BA	AA	BA	AA	BA	AA	BA	AA	BA	AA
10101	No abnormality	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
10102	No abnormality	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
10103	No abnormality	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
10104	No abnormality	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
10105	No abnormality	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
10106	No abnormality	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
10107	No abnormality	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
10108	No abnormality	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
10109	No abnormality	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
10110	No abnormality	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Animal No.	Clinical signs	Day	73		74		75		76		77		78		79		80		81	
		Time	BA	AA	BA	AA	BA	AA	BA	AA	BA	AA	BA	AA	BA	AA	BA	AA	BA	AA
10101	No abnormality	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
10102	No abnormality	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
10103	No abnormality	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
10104	No abnormality	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
10105	No abnormality	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
10106	No abnormality	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
10107	No abnormality	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
10108	No abnormality	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
10109	No abnormality	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
10110	No abnormality	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

BA : Before administration, AA : After administration

Clinical sign Sex : Male		Period : Administration Day 1-91 Dose : 4-methylbenzaldehyde 0 mg/kg														Species : Rat			
Animal No.	Clinical signs	Day 82		83		84		85		86		87		88		89		90	
		Time	BA	AA	BA	AA	BA	AA	BA	AA	BA	AA	BA	AA	BA	AA	BA	AA	BA	AA
10101	No abnormality	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
10102	No abnormality	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
10103	No abnormality	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
10104	No abnormality	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
10105	No abnormality	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
10106	No abnormality	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
10107	No abnormality	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
10108	No abnormality	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
10109	No abnormality	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
10110	No abnormality	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Animal No.	Clinical signs	Day 91	
		Time	N
10101	No abnormality	-	
10102	No abnormality	-	
10103	No abnormality	-	
10104	No abnormality	-	
10105	No abnormality	-	
10106	No abnormality	-	
10107	No abnormality	-	
10108	No abnormality	-	
10109	No abnormality	-	
10110	No abnormality	-	

BA : Before administration, AA : After administration, N : Necropsy day

Clinical sign Sex : Male		Period : Administration Day 1-91 Dose : 4-methylbenzaldehyde 100 mg/kg Species : Rat																		
Animal No.	Clinical signs	Day 1		2		3		4		5		6		7		8		9		
		Time	BA	AA	BA	AA	BA	AA	BA	AA	BA	AA	BA	AA	BA	AA	BA	AA	BA	AA
10201	No abnormality	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
10202	No abnormality	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
10203	No abnormality	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
10204	No abnormality	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
10205	No abnormality	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
10206	No abnormality	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
10207	No abnormality	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
10208	No abnormality	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
10209	No abnormality	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
10210	No abnormality	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Animal No.	Clinical signs	Day 10		11		12		13		14		15		16		17		18		
		Time	BA	AA	BA	AA	BA	AA	BA	AA	BA	AA	BA	AA	BA	AA	BA	AA	BA	AA
10201	No abnormality	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
10202	No abnormality	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
10203	No abnormality	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
10204	No abnormality	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
10205	No abnormality	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
10206	No abnormality	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
10207	No abnormality	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
10208	No abnormality	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
10209	No abnormality	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
10210	No abnormality	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Animal No.	Clinical signs	Day 19		20		21		22		23		24		25		26		27		
		Time	BA	AA	BA	AA	BA	AA	BA	AA	BA	AA	BA	AA	BA	AA	BA	AA	BA	AA
10201	No abnormality	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
10202	No abnormality	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
10203	No abnormality	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
10204	No abnormality	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
10205	No abnormality	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
10206	No abnormality	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
10207	No abnormality	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
10208	No abnormality	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
10209	No abnormality	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
10210	No abnormality	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

BA : Before administration, AA : After administration

Clinical sign Sex : Male		Period : Administration Day 1-91 Dose : 4-methylbenzaldehyde 100 mg/kg																Species : Rat			
Animal No.	Clinical signs	Day 28		29		30		31		32		33		34		35		36			
		Time	BA	AA	BA	AA	BA	AA	BA	AA	BA	AA	BA	AA	BA	AA	BA	AA	BA	AA	
10201	No abnormality	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
10202	No abnormality	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
10203	No abnormality	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
10204	No abnormality	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
10205	No abnormality	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
10206	No abnormality	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
10207	No abnormality	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
10208	No abnormality	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
10209	No abnormality	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
10210	No abnormality	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Animal No.	Clinical signs	Day 37		38		39		40		41		42		43		44		45			
		Time	BA	AA	BA	AA	BA	AA	BA	AA	BA	AA	BA	AA	BA	AA	BA	AA	BA	AA	
10201	No abnormality	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
10202	No abnormality	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
10203	No abnormality	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
10204	No abnormality	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
10205	No abnormality	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
10206	No abnormality	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
10207	No abnormality	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
10208	No abnormality	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
10209	No abnormality	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
10210	No abnormality	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Animal No.	Clinical signs	Day 46		47		48		49		50		51		52		53		54			
		Time	BA	AA	BA	AA	BA	AA	BA	AA	BA	AA	BA	AA	BA	AA	BA	AA	BA	AA	
10201	No abnormality	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
10202	No abnormality	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
10203	No abnormality	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
10204	No abnormality	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
10205	No abnormality	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
10206	No abnormality	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
10207	No abnormality	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
10208	No abnormality	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
10209	No abnormality	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
10210	No abnormality	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	

BA : Before administration, AA : After administration

Clinical sign Sex : Male		Period : Administration Day 1-91 Dose : 4-methylbenzaldehyde 100 mg/kg																Species : Rat			
Animal No.	Clinical signs	Day	55		56		57		58		59		60		61		62		63		
		Time	BA	AA	BA	AA	BA	AA	BA	AA	BA	AA	BA	AA	BA	AA	BA	AA	BA	AA	
10201	No abnormality	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
10202	No abnormality	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
10203	No abnormality	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
10204	No abnormality	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
10205	No abnormality	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
10206	No abnormality	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
10207	No abnormality	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
10208	No abnormality	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
10209	No abnormality	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
10210	No abnormality	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	

Animal No.	Clinical signs	Day	64		65		66		67		68		69		70		71		72	
		Time	BA	AA	BA	AA	BA	AA	BA	AA	BA	AA	BA	AA	BA	AA	BA	AA	BA	AA
10201	No abnormality	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
10202	No abnormality	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
10203	No abnormality	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
10204	No abnormality	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
10205	No abnormality	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
10206	No abnormality	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
10207	No abnormality	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
10208	No abnormality	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
10209	No abnormality	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
10210	No abnormality	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Animal No.	Clinical signs	Day	73		74		75		76		77		78		79		80		81	
		Time	BA	AA	BA	AA	BA	AA	BA	AA	BA	AA	BA	AA	BA	AA	BA	AA	BA	AA
10201	No abnormality	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
10202	No abnormality	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
10203	No abnormality	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
10204	No abnormality	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
10205	No abnormality	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
10206	No abnormality	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
10207	No abnormality	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
10208	No abnormality	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
10209	No abnormality	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
10210	No abnormality	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

BA : Before administration, AA : After administration

Clinical sign Sex : Male		Period : Administration Day 1-91 Dose : 4-methylbenzaldehyde 100 mg/kg																Species : Rat			
Animal No.	Clinical signs	Day 82		83		84		85		86		87		88		89		90			
		Time	BA	AA	BA	AA	BA	AA	BA	AA	BA	AA	BA	AA	BA	AA	BA	AA	BA	AA	
10201	No abnormality	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
10202	No abnormality	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
10203	No abnormality	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
10204	No abnormality	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
10205	No abnormality	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
10206	No abnormality	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
10207	No abnormality	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
10208	No abnormality	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
10209	No abnormality	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
10210	No abnormality	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	

Animal No.	Clinical signs	Day 91	
		Time	N
10201	No abnormality	-	
10202	No abnormality	-	
10203	No abnormality	-	
10204	No abnormality	-	
10205	No abnormality	-	
10206	No abnormality	-	
10207	No abnormality	-	
10208	No abnormality	-	
10209	No abnormality	-	
10210	No abnormality	-	

BA : Before administration, AA : After administration, N : Necropsy day

Clinical sign Sex : Male		Period : Administration Day 1-91 Dose : 4-methylbenzaldehyde 300 mg/kg Species : Rat																		
Animal No.	Clinical signs	Day	1		2		3		4		5		6		7		8		9	
		Time	BA	AA	BA	AA	BA	AA	BA	AA	BA	AA	BA	AA	BA	AA	BA	AA	BA	AA
10301	No abnormality	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
10302	No abnormality	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
10303	No abnormality	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
10304	No abnormality	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
10305	Hematuria	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	+
10306	No abnormality	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
10307	No abnormality	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
10308	No abnormality	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
10309	No abnormality	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
10310	No abnormality	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Animal No.	Clinical signs	Day	10		11		12		13		14		15		16		17		18	
		Time	BA	AA	BA	AA	BA	AA	BA	AA	BA	AA	BA	AA	BA	AA	BA	AA	BA	AA
10301	No abnormality	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
10302	No abnormality	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
10303	No abnormality	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
10304	No abnormality	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
10305	Hematuria	+	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
10306	No abnormality	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
10307	No abnormality	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
10308	No abnormality	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
10309	No abnormality	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
10310	No abnormality	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Animal No.	Clinical signs	Day	19		20		21		22		23		24		25		26		27	
		Time	BA	AA	BA	AA	BA	AA	BA	AA	BA	AA	BA	AA	BA	AA	BA	AA	BA	AA
10301	No abnormality	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
10302	No abnormality	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
10303	No abnormality	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
10304	No abnormality	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
10305	Hematuria	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
10306	No abnormality	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
10307	No abnormality	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
10308	No abnormality	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
10309	No abnormality	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
10310	No abnormality	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

BA : Before administration, AA : After administration

Clinical sign Sex : Male		Period : Administration Day 1-91 Dose : 4-methylbenzaldehyde 300 mg/kg																Species : Rat			
Animal No.	Clinical signs	Day 28		29		30		31		32		33		34		35		36			
		Time	BA	AA	BA	AA	BA	AA	BA	AA	BA	AA	BA	AA	BA	AA	BA	AA	BA	AA	
10301	No abnormality	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
10302	No abnormality	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
10303	No abnormality	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
10304	No abnormality	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
10305	Hematuria	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
10306	No abnormality	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
10307	No abnormality	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
10308	No abnormality	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
10309	No abnormality	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
10310	No abnormality	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	

Animal No.	Clinical signs	Day 37		38		39		40		41		42		43		44		45		
		Time	BA	AA	BA	AA	BA	AA	BA	AA	BA	AA	BA	AA	BA	AA	BA	AA	BA	AA
10301	No abnormality	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
10302	No abnormality	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
10303	No abnormality	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
10304	No abnormality	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
10305	Hematuria	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
10306	No abnormality	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
10307	No abnormality	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
10308	No abnormality	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
10309	No abnormality	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
10310	No abnormality	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Animal No.	Clinical signs	Day 46		47		48		49		50		51		52		53		54		
		Time	BA	AA	BA	AA	BA	AA	BA	AA	BA	AA	BA	AA	BA	AA	BA	AA	BA	AA
10301	No abnormality	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
10302	No abnormality	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
10303	No abnormality	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
10304	No abnormality	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
10305	Hematuria	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
10306	No abnormality	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
10307	No abnormality	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
10308	No abnormality	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
10309	No abnormality	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
10310	No abnormality	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

BA : Before administration, AA : After administration

Clinical sign Sex : Male		Period : Administration Day 1-91 Dose : 4-methylbenzaldehyde 300 mg/kg																Species : Rat			
Animal No.	Clinical signs	Day 55		56		57		58		59		60		61		62		63			
		Time	BA	AA	BA	AA	BA	AA	BA	AA	BA	AA	BA	AA	BA	AA	BA	AA	BA	AA	
10301	No abnormality	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
10302	No abnormality	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
10303	No abnormality	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
10304	No abnormality	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
10305	Hematuria	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
10306	No abnormality	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
10307	No abnormality	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
10308	No abnormality	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
10309	No abnormality	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
10310	No abnormality	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		

Animal No.	Clinical signs	Day 64		65		66		67		68		69		70		71		72	
		Time	BA	AA	BA	AA	BA	AA	BA	AA	BA	AA	BA	AA	BA	AA	BA	AA	BA	AA
10301	No abnormality	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
10302	No abnormality	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
10303	No abnormality	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
10304	No abnormality	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
10305	Hematuria	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
10306	No abnormality	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
10307	No abnormality	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
10308	No abnormality	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
10309	No abnormality	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
10310	No abnormality	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Animal No.	Clinical signs	Day 73		74		75		76		77		78		79		80		81	
		Time	BA	AA	BA	AA	BA	AA	BA	AA	BA	AA	BA	AA	BA	AA	BA	AA	BA	AA
10301	No abnormality	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
10302	No abnormality	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
10303	No abnormality	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
10304	No abnormality	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
10305	Hematuria	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
10306	No abnormality	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
10307	No abnormality	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
10308	No abnormality	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
10309	No abnormality	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
10310	No abnormality	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

BA : Before administration, AA : After administration

Clinical sign Sex : Male		Period : Administration Day 1-91 Dose : 4-methylbenzaldehyde 300 mg/kg												Species : Rat					
Animal No.	Clinical signs	Day 82		83		84		85		86		87		88		89		90	
		Time	BA	AA	BA	AA	BA	AA	BA	AA	BA	AA	BA	AA	BA	AA	BA	AA	BA	AA
10301	No abnormality	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
10302	No abnormality	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
10303	No abnormality	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
10304	No abnormality	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
10305	Hematuria	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
10306	No abnormality	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
10307	No abnormality	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
10308	No abnormality	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
10309	No abnormality	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
10310	No abnormality	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Animal No.	Clinical signs	Day 91	
		Time	N
10301	No abnormality	-	-
10302	No abnormality	-	-
10303	No abnormality	-	-
10304	No abnormality	-	-
10305	Hematuria	-	-
10306	No abnormality	-	-
10307	No abnormality	-	-
10308	No abnormality	-	-
10309	No abnormality	-	-
10310	No abnormality	-	-

BA : Before administration, AA : After administration, N : Necropsy day

Clinical sign Sex : Male		Period : Administration Day 1-91 Dose : 4-methylbenzaldehyde 1000 mg/kg Species : Rat																		
Animal No.	Clinical signs	Day 1		2		3		4		5		6		7		8		9		
		Time	BA	AA	BA	AA	BA	AA	BA	AA	BA	AA	BA	AA	BA	AA	BA	AA	BA	AA
10401	No abnormality	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
10402	Clonic convulsion	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
10403	Tremor	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
10404	Tremor	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Clonic convulsion	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
10405	No abnormality	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
10406	No abnormality	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
10407	Tremor	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Crushing of incisors	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
10408	Tremor	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
10409	No abnormality	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
10410	Tremor	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Animal No.	Clinical signs	Day 10		11		12		13		14		15		16		17		18		
		Time	BA	AA	BA	AA	BA	AA	BA	AA	BA	AA	BA	AA	BA	AA	BA	AA	BA	AA
10401	No abnormality	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
10402	Clonic convulsion	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
10403	Tremor	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
10404	Tremor	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Clonic convulsion	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
10405	No abnormality	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
10406	No abnormality	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
10407	Tremor	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Crushing of incisors	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
10408	Tremor	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
10409	No abnormality	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
10410	Tremor	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Animal No.	Clinical signs	Day 19		20		21		22		23		24		25		26		27		
		Time	BA	AA	BA	AA	BA	AA	BA	AA	BA	AA	BA	AA	BA	AA	BA	AA	BA	AA
10401	No abnormality	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
10402	Clonic convulsion	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
10403	Tremor	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
10404	Tremor	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Clonic convulsion	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
10405	No abnormality	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
10406	No abnormality	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
10407	Tremor	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Crushing of incisors	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
10408	Tremor	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
10409	No abnormality	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
10410	Tremor	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

BA : Before administration, AA : After administration

Clinical sign Sex : Male		Period : Administration Day 1-91 Dose : 4-methylbenzaldehyde 1000 mg/kg																Species : Rat			
Animal No.	Clinical signs	Day 28		29		30		31		32		33		34		35		36			
		Time	BA	AA	BA	AA	BA	AA	BA	AA	BA	AA	BA	AA	BA	AA	BA	AA	BA	AA	
10401	No abnormality	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
10402	Clonic convulsion	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
10403	Tremor	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
10404	Tremor	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	Clonic convulsion	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
10405	No abnormality	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
10406	No abnormality	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
10407	Tremor	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	Crushing of incisors	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
10408	Tremor	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
10409	No abnormality	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
10410	Tremor	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Animal No.	Clinical signs	Day 37		38		39		40		41		42		43		44		45			
		Time	BA	AA	BA	AA	BA	AA	BA	AA	BA	AA	BA	AA	BA	AA	BA	AA	BA	AA	
10401	No abnormality	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
10402	Clonic convulsion	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
10403	Tremor	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
10404	Tremor	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	Clonic convulsion	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
10405	No abnormality	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
10406	No abnormality	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
10407	Tremor	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	Crushing of incisors	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
10408	Tremor	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
10409	No abnormality	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
10410	Tremor	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Animal No.	Clinical signs	Day 46		47		48		49		50		51		52		53		54			
		Time	BA	AA	BA	AA	BA	AA	BA	AA	BA	AA	BA	AA	BA	AA	BA	AA	BA	AA	
10401	No abnormality	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
10402	Clonic convulsion	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
10403	Tremor	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
10404	Tremor	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	Clonic convulsion	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
10405	No abnormality	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
10406	No abnormality	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
10407	Tremor	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	Crushing of incisors	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
10408	Tremor	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
10409	No abnormality	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
10410	Tremor	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	

BA : Before administration, AA : After administration

Clinical sign Sex : Male		Period : Administration Day 1-91 Dose : 4-methylbenzaldehyde 1000 mg/kg Species : Rat																		
Animal No.	Clinical signs	Day	55		56		57		58		59		60		61		62		63	
		Time	BA	AA	BA	AA	BA	AA	BA	AA	BA	AA	BA	AA	BA	AA	BA	AA	BA	AA
10401	No abnormality	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
10402	Clonic convulsion	-	-	-	-	-	-	-	-	-	-	+	-	-	-	+	-	-	-	+
10403	Tremor	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
10404	Tremor	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Clonic convulsion	-	-	-	-	-	-	-	-	-	-	+	-	+	-	+	-	+	-	-
10405	No abnormality	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
10406	No abnormality	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
10407	Tremor	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
	Crushing of incisors	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
10408	Tremor	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
10409	No abnormality	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
10410	Tremor	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	+
																				+
Animal No.	Clinical signs	Day	64		65		66		67		68		69		70		71		72	
		Time	BA	AA	BA	AA	BA	AA	BA	AA	BA	AA	BA	AA	BA	AA	BA	AA	BA	AA
10401	No abnormality	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
10402	Clonic convulsion	-	-	-	+	-	+	-	+	+	-	+	-	+	-	+	-	+	-	+
10403	Tremor	-	-	-	-	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
10404	Tremor	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Clonic convulsion	-	-	-	-	-	-	-	-	-	-	-	+	+	-	-	+	-	+	+
10405	No abnormality	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
10406	No abnormality	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
10407	Tremor	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
	Crushing of incisors	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
10408	Tremor	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
10409	No abnormality	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
10410	Tremor	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
Animal No.	Clinical signs	Day	73		74		75		76		77		78		79		80		81	
		Time	BA	AA	BA	AA	BA	AA	BA	AA	BA	AA	BA	AA	BA	AA	BA	AA	BA	AA
10401	No abnormality	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
10402	Clonic convulsion	+	+	+	-	+	-	+	-	+	-	+	-	+	-	+	-	+	-	+
10403	Tremor	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
10404	Tremor	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Clonic convulsion	-	+	-	-	-	+	-	-	+	-	+	-	+	-	+	-	+	-	-
10405	No abnormality	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
10406	No abnormality	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
10407	Tremor	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
	Crushing of incisors	+	+	+	+	+	+	-	-	-	-	-	-	-	-	-	-	-	-	-
10408	Tremor	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
10409	No abnormality	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
10410	Tremor	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+

BA : Before administration, AA : After administration

Clinical sign Sex : Male		Period : Administration Day 1-91 Dose : 4-methylbenzaldehyde 1000 mg/kg												Species : Rat						
Animal No.	Clinical signs	Day	82		83		84		85		86		87		88		89		90	
		Time	BA	AA	BA	AA	BA	AA	BA	AA	BA	AA	BA	AA	BA	AA	BA	AA	BA	AA
10401	No abnormality		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
10402	Clonic convulsion		-	+	+	-	+	+	-	+	+	-	-	-	-	+	+	-	+	-
10403	Tremor		+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
10404	Tremor		-	-	-	-	-	-	-	-	+	+	+	+	+	+	+	+	+	+
	Clonic convulsion		-	-	-	-	-	-	-	-	+	-	+	-	-	-	-	-	-	-
10405	No abnormality		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
10406	No abnormality		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
10407	Tremor		+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
	Crushing of incisors		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
10408	Tremor		+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
10409	No abnormality		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
10410	Tremor		+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
		Day	91																	
Animal No.	Clinical signs	Time	N																	
10401	No abnormality		-																	
10402	Clonic convulsion		+																	
10403	Tremor		+																	
10404	Tremor		+																	
	Clonic convulsion		-																	
10405	No abnormality		-																	
10406	No abnormality		-																	
10407	Tremor		+																	
	Crushing of incisors		-																	
10408	Tremor		+																	
10409	No abnormality		-																	
10410	Tremor		+																	

BA : Before administration, AA : After administration, N : Necropsy day

Clinical sign Sex : Female		Period : Administration Day 1-91 Dose : 4-methylbenzaldehyde 0 mg/kg Species : Rat																		
Animal No.	Clinical signs	Day 1		2		3		4		5		6		7		8		9		
		Time	BA	AA	BA	AA	BA	AA	BA	AA	BA	AA	BA	AA	BA	AA	BA	AA	BA	AA
50151	No abnormality	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
50152	No abnormality	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
50153	No abnormality	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
50154	No abnormality	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
50155	No abnormality	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
50156	No abnormality	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
50157	No abnormality	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
50158	No abnormality	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
50159	No abnormality	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
50160	No abnormality	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Animal No.	Clinical signs	Day 10		11		12		13		14		15		16		17		18		
		Time	BA	AA	BA	AA	BA	AA	BA	AA	BA	AA	BA	AA	BA	AA	BA	AA	BA	AA
50151	No abnormality	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
50152	No abnormality	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
50153	No abnormality	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
50154	No abnormality	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
50155	No abnormality	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
50156	No abnormality	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
50157	No abnormality	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
50158	No abnormality	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
50159	No abnormality	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
50160	No abnormality	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Animal No.	Clinical signs	Day 19		20		21		22		23		24		25		26		27		
		Time	BA	AA	BA	AA	BA	AA	BA	AA	BA	AA	BA	AA	BA	AA	BA	AA	BA	AA
50151	No abnormality	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
50152	No abnormality	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
50153	No abnormality	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
50154	No abnormality	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
50155	No abnormality	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
50156	No abnormality	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
50157	No abnormality	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
50158	No abnormality	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
50159	No abnormality	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
50160	No abnormality	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

BA : Before administration, AA : After administration

Clinical sign Sex : Female		Period : Administration Day 1-91 Dose : 4-methylbenzaldehyde 0 mg/kg Species : Rat																		
Animal No.	Clinical signs	Day 28		29		30		31		32		33		34		35		36		
		Time	BA	AA	BA	AA	BA	AA	BA	AA	BA	AA	BA	AA	BA	AA	BA	AA	BA	AA
50151	No abnormality	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
50152	No abnormality	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
50153	No abnormality	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
50154	No abnormality	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
50155	No abnormality	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
50156	No abnormality	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
50157	No abnormality	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
50158	No abnormality	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
50159	No abnormality	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
50160	No abnormality	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Animal No.	Clinical signs	Day 37		38		39		40		41		42		43		44		45		
		Time	BA	AA	BA	AA	BA	AA	BA	AA	BA	AA	BA	AA	BA	AA	BA	AA	BA	AA
50151	No abnormality	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
50152	No abnormality	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
50153	No abnormality	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
50154	No abnormality	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
50155	No abnormality	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
50156	No abnormality	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
50157	No abnormality	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
50158	No abnormality	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
50159	No abnormality	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
50160	No abnormality	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Animal No.	Clinical signs	Day 46		47		48		49		50		51		52		53		54		
		Time	BA	AA	BA	AA	BA	AA	BA	AA	BA	AA	BA	AA	BA	AA	BA	AA	BA	AA
50151	No abnormality	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
50152	No abnormality	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
50153	No abnormality	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
50154	No abnormality	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
50155	No abnormality	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
50156	No abnormality	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
50157	No abnormality	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
50158	No abnormality	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
50159	No abnormality	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
50160	No abnormality	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

BA : Before administration, AA : After administration

Clinical sign Sex : Female		Period : Administration Day 1-91 Dose : 4-methylbenzaldehyde 0 mg/kg																Species : Rat			
Animal No.	Clinical signs	Day	55		56		57		58		59		60		61		62		63		
		Time	BA	AA	BA	AA	BA	AA	BA	AA	BA	AA	BA	AA	BA	AA	BA	AA	BA	AA	
50151	No abnormality	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
50152	No abnormality	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
50153	No abnormality	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
50154	No abnormality	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
50155	No abnormality	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
50156	No abnormality	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
50157	No abnormality	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
50158	No abnormality	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
50159	No abnormality	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
50160	No abnormality	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	

Animal No.	Clinical signs	Day	64		65		66		67		68		69		70		71		72	
		Time	BA	AA	BA	AA	BA	AA	BA	AA	BA	AA	BA	AA	BA	AA	BA	AA	BA	AA
50151	No abnormality	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
50152	No abnormality	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
50153	No abnormality	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
50154	No abnormality	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
50155	No abnormality	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
50156	No abnormality	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
50157	No abnormality	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
50158	No abnormality	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
50159	No abnormality	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
50160	No abnormality	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Animal No.	Clinical signs	Day	73		74		75		76		77		78		79		80		81	
		Time	BA	AA	BA	AA	BA	AA	BA	AA	BA	AA	BA	AA	BA	AA	BA	AA	BA	AA
50151	No abnormality	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
50152	No abnormality	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
50153	No abnormality	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
50154	No abnormality	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
50155	No abnormality	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
50156	No abnormality	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
50157	No abnormality	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
50158	No abnormality	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
50159	No abnormality	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
50160	No abnormality	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

BA : Before administration, AA : After administration

Clinical sign Sex : Female		Period : Administration Day 1-91 Dose : 4-methylbenzaldehyde 0 mg/kg												Species : Rat					
Animal No.	Clinical signs	Day 82		83		84		85		86		87		88		89		90	
		Time	BA	AA	BA	AA	BA	AA	BA	AA	BA	AA	BA	AA	BA	AA	BA	AA	BA	AA
50151	No abnormality	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
50152	No abnormality	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
50153	No abnormality	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
50154	No abnormality	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
50155	No abnormality	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
50156	No abnormality	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
50157	No abnormality	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
50158	No abnormality	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
50159	No abnormality	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
50160	No abnormality	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Animal No.	Clinical signs	Day 91	
		Time	N
50151	No abnormality	-	
50152	No abnormality	-	
50153	No abnormality	-	
50154	No abnormality	-	
50155	No abnormality	-	
50156	No abnormality	-	
50157	No abnormality	-	
50158	No abnormality	-	
50159	No abnormality	-	
50160	No abnormality	-	

BA : Before administration, AA : After administration, N : Necropsy day

Clinical sign Sex : Female		Period : Administration Day 1-91 Dose : 4-methylbenzaldehyde 100 mg/kg Species : Rat																		
Animal No.	Clinical signs	Day 1		2		3		4		5		6		7		8		9		
		Time	BA	AA	BA	AA	BA	AA	BA	AA	BA	AA	BA	AA	BA	AA	BA	AA	BA	AA
50251	No abnormality	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
50252	No abnormality	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
50253	No abnormality	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
50254	No abnormality	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
50255	No abnormality	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
50256	No abnormality	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
50257	No abnormality	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
50258	No abnormality	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
50259	No abnormality	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
50260	No abnormality	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Animal No.	Clinical signs	Day 10		11		12		13		14		15		16		17		18		
		Time	BA	AA	BA	AA	BA	AA	BA	AA	BA	AA	BA	AA	BA	AA	BA	AA	BA	AA
50251	No abnormality	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
50252	No abnormality	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
50253	No abnormality	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
50254	No abnormality	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
50255	No abnormality	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
50256	No abnormality	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
50257	No abnormality	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
50258	No abnormality	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
50259	No abnormality	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
50260	No abnormality	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Animal No.	Clinical signs	Day 19		20		21		22		23		24		25		26		27		
		Time	BA	AA	BA	AA	BA	AA	BA	AA	BA	AA	BA	AA	BA	AA	BA	AA	BA	AA
50251	No abnormality	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
50252	No abnormality	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
50253	No abnormality	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
50254	No abnormality	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
50255	No abnormality	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
50256	No abnormality	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
50257	No abnormality	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
50258	No abnormality	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
50259	No abnormality	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
50260	No abnormality	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

BA : Before administration, AA : After administration

Clinical sign Sex : Female		Period : Administration Day 1-91 Dose : 4-methylbenzaldehyde 100 mg/kg																Species : Rat			
Animal No.	Clinical signs	Day	28		29		30		31		32		33		34		35		36		
		Time	BA	AA	BA	AA	BA	AA	BA	AA	BA	AA	BA	AA	BA	AA	BA	AA	BA	AA	
50251	No abnormality	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
50252	No abnormality	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
50253	No abnormality	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
50254	No abnormality	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
50255	No abnormality	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
50256	No abnormality	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
50257	No abnormality	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
50258	No abnormality	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
50259	No abnormality	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
50260	No abnormality	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	

Animal No.	Clinical signs	Day	37		38		39		40		41		42		43		44		45	
		Time	BA	AA	BA	AA	BA	AA	BA	AA	BA	AA	BA	AA	BA	AA	BA	AA	BA	AA
50251	No abnormality	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
50252	No abnormality	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
50253	No abnormality	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
50254	No abnormality	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
50255	No abnormality	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
50256	No abnormality	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
50257	No abnormality	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
50258	No abnormality	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
50259	No abnormality	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
50260	No abnormality	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Animal No.	Clinical signs	Day	46		47		48		49		50		51		52		53		54	
		Time	BA	AA	BA	AA	BA	AA	BA	AA	BA	AA	BA	AA	BA	AA	BA	AA	BA	AA
50251	No abnormality	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
50252	No abnormality	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
50253	No abnormality	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
50254	No abnormality	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
50255	No abnormality	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
50256	No abnormality	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
50257	No abnormality	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
50258	No abnormality	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
50259	No abnormality	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
50260	No abnormality	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

BA : Before administration, AA : After administration

Clinical sign Sex : Female		Period : Administration Day 1-91 Dose : 4-methylbenzaldehyde 100 mg/kg																Species : Rat			
Animal No.	Clinical signs	Day	55		56		57		58		59		60		61		62		63		
		Time	BA	AA	BA	AA	BA	AA	BA	AA	BA	AA	BA	AA	BA	AA	BA	AA	BA	AA	
50251	No abnormality	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
50252	No abnormality	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
50253	No abnormality	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
50254	No abnormality	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
50255	No abnormality	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
50256	No abnormality	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
50257	No abnormality	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
50258	No abnormality	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
50259	No abnormality	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
50260	No abnormality	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	

Animal No.	Clinical signs	Day	64		65		66		67		68		69		70		71		72	
		Time	BA	AA	BA	AA	BA	AA	BA	AA	BA	AA	BA	AA	BA	AA	BA	AA	BA	AA
50251	No abnormality	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
50252	No abnormality	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
50253	No abnormality	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
50254	No abnormality	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
50255	No abnormality	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
50256	No abnormality	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
50257	No abnormality	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
50258	No abnormality	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
50259	No abnormality	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
50260	No abnormality	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Animal No.	Clinical signs	Day	73		74		75		76		77		78		79		80		81	
		Time	BA	AA	BA	AA	BA	AA	BA	AA	BA	AA	BA	AA	BA	AA	BA	AA	BA	AA
50251	No abnormality	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
50252	No abnormality	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
50253	No abnormality	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
50254	No abnormality	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
50255	No abnormality	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
50256	No abnormality	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
50257	No abnormality	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
50258	No abnormality	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
50259	No abnormality	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
50260	No abnormality	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

BA : Before administration, AA : After administration

Clinical sign Sex : Female		Period : Administration Day 1-91 Dose : 4-methylbenzaldehyde 100 mg/kg														Species : Rat			
Animal No.	Clinical signs	Day 82		83		84		85		86		87		88		89		90	
		Time	BA	AA	BA	AA	BA	AA	BA	AA	BA	AA	BA	AA	BA	AA	BA	AA	BA	AA
50251	No abnormality	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
50252	No abnormality	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
50253	No abnormality	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
50254	No abnormality	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
50255	No abnormality	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
50256	No abnormality	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
50257	No abnormality	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
50258	No abnormality	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
50259	No abnormality	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
50260	No abnormality	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Animal No.	Clinical signs	Day 91	
		Time	N
50251	No abnormality	-	
50252	No abnormality	-	
50253	No abnormality	-	
50254	No abnormality	-	
50255	No abnormality	-	
50256	No abnormality	-	
50257	No abnormality	-	
50258	No abnormality	-	
50259	No abnormality	-	
50260	No abnormality	-	

BA : Before administration, AA : After administration, N : Necropsy day

Clinical sign Sex : Female		Period : Administration Day 1-91 Dose : 4-methylbenzaldehyde 300 mg/kg Species : Rat																	
Animal No.	Clinical signs	Day 1	2		3		4		5		6		7		8		9		
		Time	BA	AA	BA	AA	BA	AA	BA	AA	BA	AA	BA	AA	BA	AA	BA	AA	
50351	No abnormality	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
50352	No abnormality	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
50353	No abnormality	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
50354	No abnormality	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
50355	No abnormality	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
50356	No abnormality	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
50357	No abnormality	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
50358	No abnormality	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
50359	No abnormality	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
50360	No abnormality	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	

Animal No.	Clinical signs	Day 10	11		12		13		14		15		16		17		18	
		Time	BA	AA	BA	AA	BA	AA	BA	AA	BA	AA	BA	AA	BA	AA	BA	AA
50351	No abnormality	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
50352	No abnormality	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
50353	No abnormality	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
50354	No abnormality	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
50355	No abnormality	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
50356	No abnormality	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
50357	No abnormality	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
50358	No abnormality	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
50359	No abnormality	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
50360	No abnormality	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Animal No.	Clinical signs	Day 19	20		21		22		23		24		25		26		27	
		Time	BA	AA	BA	AA	BA	AA	BA	AA	BA	AA	BA	AA	BA	AA	BA	AA
50351	No abnormality	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
50352	No abnormality	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
50353	No abnormality	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
50354	No abnormality	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
50355	No abnormality	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
50356	No abnormality	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
50357	No abnormality	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
50358	No abnormality	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
50359	No abnormality	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
50360	No abnormality	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

BA : Before administration, AA : After administration

Clinical sign Sex : Female		Period : Administration Day 1-91 Dose : 4-methylbenzaldehyde 300 mg/kg																Species : Rat			
Animal No.	Clinical signs	Day 28		29		30		31		32		33		34		35		36			
		Time	BA	AA	BA	AA	BA	AA	BA	AA	BA	AA	BA	AA	BA	AA	BA	AA	BA	AA	
50351	No abnormality	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
50352	No abnormality	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
50353	No abnormality	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
50354	No abnormality	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
50355	No abnormality	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
50356	No abnormality	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
50357	No abnormality	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
50358	No abnormality	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
50359	No abnormality	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
50360	No abnormality	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	

Animal No.	Clinical signs	Day 37		38		39		40		41		42		43		44		45		
		Time	BA	AA	BA	AA	BA	AA	BA	AA	BA	AA	BA	AA	BA	AA	BA	AA	BA	AA
50351	No abnormality	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
50352	No abnormality	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
50353	No abnormality	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
50354	No abnormality	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
50355	No abnormality	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
50356	No abnormality	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
50357	No abnormality	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
50358	No abnormality	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
50359	No abnormality	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
50360	No abnormality	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Animal No.	Clinical signs	Day 46		47		48		49		50		51		52		53		54		
		Time	BA	AA	BA	AA	BA	AA	BA	AA	BA	AA	BA	AA	BA	AA	BA	AA	BA	AA
50351	No abnormality	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
50352	No abnormality	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
50353	No abnormality	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
50354	No abnormality	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
50355	No abnormality	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
50356	No abnormality	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
50357	No abnormality	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
50358	No abnormality	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
50359	No abnormality	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
50360	No abnormality	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

BA : Before administration, AA : After administration

Clinical sign Sex : Female		Period : Administration Day 1-91 Dose : 4-methylbenzaldehyde 300 mg/kg																Species : Rat			
Animal No.	Clinical signs	Day	55		56		57		58		59		60		61		62		63		
		Time	BA	AA	BA	AA	BA	AA	BA	AA	BA	AA	BA	AA	BA	AA	BA	AA	BA	AA	
50351	No abnormality	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
50352	No abnormality	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
50353	No abnormality	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
50354	No abnormality	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
50355	No abnormality	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
50356	No abnormality	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
50357	No abnormality	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
50358	No abnormality	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
50359	No abnormality	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
50360	No abnormality	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	

Animal No.	Clinical signs	Day	64		65		66		67		68		69		70		71		72	
		Time	BA	AA	BA	AA	BA	AA	BA	AA	BA	AA	BA	AA	BA	AA	BA	AA	BA	AA
50351	No abnormality	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
50352	No abnormality	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
50353	No abnormality	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
50354	No abnormality	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
50355	No abnormality	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
50356	No abnormality	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
50357	No abnormality	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
50358	No abnormality	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
50359	No abnormality	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
50360	No abnormality	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Animal No.	Clinical signs	Day	73		74		75		76		77		78		79		80		81	
		Time	BA	AA	BA	AA	BA	AA	BA	AA	BA	AA	BA	AA	BA	AA	BA	AA	BA	AA
50351	No abnormality	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
50352	No abnormality	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
50353	No abnormality	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
50354	No abnormality	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
50355	No abnormality	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
50356	No abnormality	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
50357	No abnormality	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
50358	No abnormality	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
50359	No abnormality	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
50360	No abnormality	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

BA : Before administration, AA : After administration

Clinical sign Sex : Female		Period : Administration Day 1-91 Dose : 4-methylbenzaldehyde 300 mg/kg														Species : Rat				
Animal No.	Clinical signs	Day	82		83		84		85		86		87		88		89		90	
		Time	BA	AA	BA	AA	BA	AA	BA	AA	BA	AA	BA	AA	BA	AA	BA	AA	BA	AA
50351	No abnormality	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
50352	No abnormality	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
50353	No abnormality	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
50354	No abnormality	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
50355	No abnormality	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
50356	No abnormality	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
50357	No abnormality	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
50358	No abnormality	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
50359	No abnormality	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
50360	No abnormality	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Animal No.	Clinical signs	Day	91
		Time	N
50351	No abnormality	-	-
50352	No abnormality	-	-
50353	No abnormality	-	-
50354	No abnormality	-	-
50355	No abnormality	-	-
50356	No abnormality	-	-
50357	No abnormality	-	-
50358	No abnormality	-	-
50359	No abnormality	-	-
50360	No abnormality	-	-

BA : Before administration, AA : After administration, N : Necropsy day

Clinical sign Sex : Female		Period : Administration Day 1-91 Dose : 4-methylbenzaldehyde 1000 mg/kg Species : Rat																		
Animal No.	Clinical signs	Day	1		2		3		4		5		6		7		8		9	
		Time	BA	AA	BA	AA	BA	AA	BA	AA	BA	AA	BA	AA	BA	AA	BA	AA	BA	AA
50451	No abnormality	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
50452	Clonic convulsion	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
50453	Tremor	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
50454	Tremor	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
50455	Tremor	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
50456	No abnormality	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
50457	Tremor	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
50458	No abnormality	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
50459	No abnormality	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
50460	No abnormality	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
		Day	10		11		12		13		14		15		16		17		18	
Animal No.	Clinical signs	Time	BA	AA	BA	AA	BA	AA	BA	AA	BA	AA	BA	AA	BA	AA	BA	AA	BA	AA
		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
50451	No abnormality	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
50452	Clonic convulsion	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
50453	Tremor	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
50454	Tremor	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
50455	Tremor	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
50456	No abnormality	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
50457	Tremor	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
50458	No abnormality	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
50459	No abnormality	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
50460	No abnormality	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
		Day	19		20		21		22		23		24		25		26		27	
Animal No.	Clinical signs	Time	BA	AA	BA	AA	BA	AA	BA	AA	BA	AA	BA	AA	BA	AA	BA	AA	BA	AA
		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
50451	No abnormality	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
50452	Clonic convulsion	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
50453	Tremor	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
50454	Tremor	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
50455	Tremor	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
50456	No abnormality	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
50457	Tremor	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
50458	No abnormality	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
50459	No abnormality	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
50460	No abnormality	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

BA : Before administration, AA : After administration

Clinical sign Sex : Female		Period : Administration Day 1-91 Dose : 4-methylbenzaldehyde 1000 mg/kg Species : Rat																		
Animal No.	Clinical signs	Day	28		29		30		31		32		33		34		35		36	
		Time	BA	AA	BA	AA	BA	AA	BA	AA	BA	AA	BA	AA	BA	AA	BA	AA	BA	AA
50451	No abnormality	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
50452	Clonic convulsion	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
50453	Tremor	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
50454	Tremor	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
50455	Tremor	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
50456	No abnormality	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
50457	Tremor	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
50458	No abnormality	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
50459	No abnormality	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
50460	No abnormality	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
		Day	37		38		39		40		41		42		43		44		45	
Animal No.	Clinical signs	Time	BA	AA	BA	AA	BA	AA	BA	AA	BA	AA	BA	AA	BA	AA	BA	AA	BA	AA
		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
50451	No abnormality	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
50452	Clonic convulsion	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
50453	Tremor	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
50454	Tremor	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
50455	Tremor	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
50456	No abnormality	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
50457	Tremor	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
50458	No abnormality	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
50459	No abnormality	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
50460	No abnormality	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
		Day	46		47		48		49		50		51		52		53		54	
Animal No.	Clinical signs	Time	BA	AA	BA	AA	BA	AA	BA	AA	BA	AA	BA	AA	BA	AA	BA	AA	BA	AA
		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
50451	No abnormality	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
50452	Clonic convulsion	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
50453	Tremor	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
50454	Tremor	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
50455	Tremor	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
50456	No abnormality	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
50457	Tremor	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	+	+
50458	No abnormality	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
50459	No abnormality	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
50460	No abnormality	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

BA : Before administration, AA : After administration

Clinical sign Sex : Female		Period : Administration Day 1-91 Dose : 4-methylbenzaldehyde 1000 mg/kg Species : Rat																			
Animal No.	Clinical signs	Day	55		56		57		58		59		60		61		62		63		
		Time	BA	AA	BA	AA	BA	AA	BA	AA	BA	AA	BA	AA	BA	AA	BA	AA	BA	AA	
50451	No abnormality	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
50452	Clonic convulsion	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
50453	Tremor	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	
50454	Tremor	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
50455	Tremor	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
50456	No abnormality	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
50457	Tremor	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	
50458	No abnormality	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
50459	No abnormality	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
50460	No abnormality	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Animal No.	Clinical signs	Day	64		65		66		67		68		69		70		71		72		
		Time	BA	AA	BA	AA	BA	AA	BA	AA	BA	AA	BA	AA	BA	AA	BA	AA	BA	AA	
50451	No abnormality	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
50452	Clonic convulsion	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
50453	Tremor	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	
50454	Tremor	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	
50455	Tremor	-	-	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	
50456	No abnormality	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
50457	Tremor	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	
50458	No abnormality	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
50459	No abnormality	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
50460	No abnormality	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Animal No.	Clinical signs	Day	73		74		75		76		77		78		79		80		81		
		Time	BA	AA	BA	AA	BA	AA	BA	AA	BA	AA	BA	AA	BA	AA	BA	AA	BA	AA	
50451	No abnormality	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
50452	Clonic convulsion	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
50453	Tremor	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	
50454	Tremor	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	
50455	Tremor	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	
50456	No abnormality	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
50457	Tremor	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	
50458	No abnormality	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
50459	No abnormality	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
50460	No abnormality	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	

BA : Before administration, AA : After administration

Clinical sign Sex : Female		Period : Administration Day 1-91 Dose : 4-methylbenzaldehyde 1000 mg/kg												Species : Rat						
Animal No.	Clinical signs	Day	82		83		84		85		86		87		88		89		90	
		Time	BA	AA	BA	AA	BA	AA	BA	AA	BA	AA	BA	AA	BA	AA	BA	AA	BA	AA
50451	No abnormality	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
50452	Clonic convulsion	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
50453	Tremor	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
50454	Tremor	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
50455	Tremor	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
50456	No abnormality	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
50457	Tremor	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
50458	No abnormality	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
50459	No abnormality	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
50460	No abnormality	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Animal No.	Clinical signs	Day	91
		Time	N
50451	No abnormality	-	-
50452	Clonic convulsion	+	+
50453	Tremor	+	+
50454	Tremor	+	+
50455	Tremor	+	+
50456	No abnormality	-	-
50457	Tremor	+	+
50458	No abnormality	-	-
50459	No abnormality	-	-
50460	No abnormality	-	-

BA : Before administration, AA : After administration, N : Necropsy day

Animal No.	Body weight												
	/Day												
	1	4	7	10	14	21	28	35	42	49	56	63	
10101	200	233	257	286	321	365	404	435	459	489	500	516	
10102	203	233	263	289	324	376	415	442	461	474	481	509	
10103	198	223	252	277	306	331	363	388	403	435	463	483	
10104	191	222	250	283	318	371	416	459	493	520	540	561	
10105	198	224	251	278	311	352	390	425	451	481	501	522	
10106	210	239	266	293	334	383	435	481	519	548	572	597	
10107	217	249	282	307	346	404	451	492	525	556	567	591	
10108	211	237	267	298	328	375	418	456	488	527	556	585	
10109	206	235	259	283	311	347	383	414	452	475	493	508	
10110	199	228	255	285	318	360	400	434	464	487	506	518	
n	10	10	10	10	10	10	10	10	10	10	10	10	
Mean	203.3	232.3	260.2	287.9	321.7	366.4	407.5	442.6	471.5	499.2	517.9	539.0	
S.D.	7.7	8.4	9.8	9.3	12.0	20.4	25.5	30.9	36.0	37.6	38.0	40.7	

Animal No.	/Day				Body weight gain
	70	77	84	90	
10101	537	545	557	566	366
10102	519	535	540	544	341
10103	503	524	545	559	361
10104	579	591	608	617	426
10105	543	560	578	581	383
10106	618	632	651	658	448
10107	614	634	649	660	443
10108	606	625	647	661	450
10109	524	538	550	559	353
10110	538	550	572	583	384
n	10	10	10	10	10
Mean	558.1	573.4	589.7	598.8	395.5
S.D.	42.5	43.2	45.3	46.3	42.2

Animal No.	Body weight												
	/Day												
	1	4	7	10	14	21	28	35	42	49	56	63	
10201	202	226	252	273	303	341	377	410	441	461	485	510	
10202	202	229	257	282	316	360	398	430	449	474	490	503	
10203	203	234	257	284	317	363	407	441	478	502	528	555	
10204	189	213	235	256	280	310	339	371	401	428	450	472	
10205	207	239	267	297	330	380	419	453	490	509	524	545	
10206	205	235	264	291	330	384	425	463	492	516	529	540	
10207	197	221	247	275	308	358	395	429	456	478	498	519	
10208	197	224	251	281	309	357	380	418	440	463	482	503	
10209	207	238	268	290	325	372	415	452	484	518	541	571	
10210	211	239	264	289	318	357	391	422	442	468	479	498	
n	10	10	10	10	10	10	10	10	10	10	10	10	
Mean	202.0	229.8	256.2	281.8	313.6	358.2	394.6	428.9	457.3	481.7	500.6	521.6	
S.D.	6.3	8.8	10.3	11.7	14.9	21.0	25.2	26.5	28.8	29.0	28.8	30.4	

Animal No.	/Day				Body weight gain
	70	77	84	90	
10201	522	532	549	550	348
10202	523	538	552	552	350
10203	575	591	613	621	418
10204	491	505	517	519	330
10205	563	569	582	592	385
10206	562	572	583	582	377
10207	530	547	554	561	364
10208	521	538	549	558	361
10209	595	612	632	641	434
10210	510	522	535	547	336
n	10	10	10	10	10
Mean	539.2	552.6	566.6	572.3	370.3
S.D.	32.7	32.9	35.6	37.0	34.0

Animal No.	Body weight												
	/Day												
	1	4	7	10	14	21	28	35	42	49	56	63	
10301	199	228	246	274	305	346	383	417	451	479	500	522	
10302	193	222	253	281	318	375	423	464	505	544	572	598	
10303	204	238	268	294	335	379	418	460	497	534	561	589	
10304	207	237	266	293	327	373	413	455	490	515	531	547	
10305	198	219	244	262	296	340	380	420	450	479	495	527	
10306	196	221	246	273	306	350	388	428	459	493	514	537	
10307	214	245	270	296	329	373	410	451	475	505	526	539	
10308	205	234	261	289	321	378	421	461	494	518	529	551	
10309	212	240	269	296	330	379	424	461	491	513	531	553	
10310	198	227	254	278	303	345	381	413	440	461	473	498	
n	10	10	10	10	10	10	10	10	10	10	10	10	
Mean	202.6	231.1	257.7	283.6	317.0	363.8	404.1	443.0	475.2	504.1	523.2	546.1	
S.D.	7.0	8.9	10.3	11.7	13.6	16.3	18.8	20.9	23.4	26.1	29.6	29.8	

Animal No.	/Day				Body weight gain
	70	77	84	90	
10301	542	558	578	581	382
10302	623	644	667	673	480
10303	616	635	656	665	461
10304	569	589	601	606	399
10305	552	572	589	597	399
10306	552	571	586	595	399
10307	550	575	586	594	380
10308	564	577	593	595	390
10309	568	577	593	595	383
10310	516	531	548	556	358
n	10	10	10	10	10
Mean	565.2	582.9	599.7	605.7	403.1
S.D.	32.5	33.6	35.6	36.0	37.9

Animal No.	Body weight												
	Sex : Male												
Period : Administration Day 1-91													
Dose : 4-methylbenzaldehyde 1000 mg/kg													
Unit : g													
Species : Rat													
	/Day												
	1	4	7	10	14	21	28	35	42	49	56	63	
10401	209	233	251	273	295	334	365	394	419	442	450	466	
10402	198	222	248	270	302	334	363	384	404	413	424	440	
10403	200	225	256	279	306	346	378	402	420	444	453	462	
10404	209	247	280	312	341	395	445	485	516	544	547	560	
10405	212	242	267	293	331	379	417	439	459	473	482	494	
10406	202	225	248	271	294	333	369	406	435	437	460	477	
10407	200	222	249	274	301	338	365	395	415	431	434	438	
10408	190	215	240	259	291	330	361	389	408	420	419	422	
10409	205	229	256	278	290	313	337	364	394	414	431	446	
10410	199	227	256	286	318	371	409	443	463	485	493	506	
n	10	10	10	10	10	10	10	10	10	10	10	10	
Mean	202.4	228.7	255.1	279.5	306.9	347.3	380.9	410.1	433.3	450.3	459.3	471.1	
S.D.	6.5	9.6	11.3	14.7	17.6	25.7	32.5	35.5	36.7	40.5	39.1	40.7	

Animal No.	/Day				Body weight gain
	70	77	84	90	
10401	474	481	481	475	266
10402	433	424	431	432	234
10403	481	484	491	488	288
10404	573	598	615	630	421
10405	496	509	511	503	291
10406	500	497	510	516	314
10407	436	440	443	440	240
10408	425	424	434	446	256
10409	458	465	479	484	279
10410	511	514	516	518	319
n	10	10	10	10	10
Mean	478.7	483.6	491.1	493.2	290.8
S.D.	44.6	51.8	53.9	57.0	53.8

Body weight		Period : Administration Day 1-91												
Sex : Female		Dose : 4-methylbenzaldehyde 0 mg/kg												
		Unit : g												
		Species : Rat												
Animal No.	/Day	1	4	7	10	14	21	28	35	42	49	56	63	
50151		179	185	207	218	232	250	259	285	293	303	305	322	
50152		187	207	212	234	236	248	274	276	283	296	293	307	
50153		191	200	222	234	249	269	276	296	305	309	309	324	
50154		199	216	222	243	259	283	302	313	333	349	354	352	
50155		175	190	197	206	218	229	257	273	281	284	300	311	
50156		186	203	211	211	223	242	260	267	268	291	303	312	
50157		170	184	178	197	208	225	256	303	300	285	273	296	
50158		173	190	199	204	217	248	267	287	290	315	329	335	
50159		195	211	215	237	250	272	286	310	306	329	338	345	
50160		179	187	205	214	220	233	234	253	259	271	268	290	
n		10	10	10	10	10	10	10	10	10	10	10	10	
Mean		183.4	197.3	206.8	219.8	231.2	249.9	267.1	286.3	291.8	303.2	307.2	319.4	
S.D.		9.7	11.6	13.2	16.0	16.9	19.3	18.7	19.5	21.0	23.3	27.1	20.2	

Animal No.	/Day	70	77	84	90	Body weight gain
50151		331	336	341	346	167
50152		313	324	331	336	149
50153		329	334	336	349	158
50154		371	380	389	396	197
50155		314	313	327	329	154
50156		314	330	323	334	148
50157		308	319	327	344	174
50158		341	351	358	355	182
50159		360	357	379	381	186
50160		294	296	299	303	124
n		10	10	10	10	10
Mean		327.5	334.0	341.0	347.3	163.9
S.D.		24.1	24.0	27.2	26.2	21.7

Animal No.	Body weight												
	/Day												
	1	4	7	10	14	21	28	35	42	49	56	63	
50251	190	207	213	236	251	276	291	301	328	348	357	361	
50252	186	206	210	224	239	264	275	292	310	332	337	349	
50253	178	193	199	215	228	259	278	288	305	325	326	328	
50254	184	196	200	213	229	253	272	293	316	327	332	333	
50255	185	192	209	222	236	253	263	284	290	296	299	310	
50256	179	185	191	207	217	229	236	243	259	272	275	275	
50257	183	198	205	228	236	257	275	288	306	314	319	321	
50258	193	206	218	225	225	237	261	270	279	291	311	318	
50259	171	178	190	199	210	224	224	239	248	253	256	268	
50260	197	210	230	247	270	302	324	346	366	377	383	401	
n	10	10	10	10	10	10	10	10	10	10	10	10	
Mean	184.6	197.1	206.5	221.6	234.1	255.4	269.9	284.4	300.7	313.5	319.5	326.4	
S.D.	7.6	10.4	12.3	14.0	17.1	22.9	27.6	30.2	34.1	36.6	37.2	39.1	

Animal No.	/Day				Body weight gain
	70	77	84	90	
50251	384	393	398	394	204
50252	370	383	390	398	212
50253	346	356	364	366	188
50254	344	354	358	370	186
50255	327	330	331	337	152
50256	283	292	294	289	110
50257	335	345	347	355	172
50258	324	341	361	367	174
50259	272	270	275	283	112
50260	416	420	426	437	240
n	10	10	10	10	10
Mean	340.1	348.4	354.4	359.6	175.0
S.D.	43.4	44.9	45.9	47.4	41.4

Animal No.	Body weight												
	Sex : Female												
Period : Administration Day 1-91													
Dose : 4-methylbenzaldehyde 300 mg/kg													
Unit : g													
Species : Rat													
	/Day												
	1	4	7	10	14	21	28	35	42	49	56	63	
50351	194	210	219	235	250	268	282	290	312	330	343	347	
50352	177	196	210	214	239	269	290	317	347	378	389	400	
50353	181	181	177	185	191	200	210	220	221	234	244	242	
50354	175	198	209	217	234	249	278	294	308	312	330	357	
50355	187	199	195	214	226	247	257	273	290	298	313	311	
50356	189	203	208	228	247	271	291	305	327	341	342	348	
50357	173	185	187	198	209	229	247	269	291	308	325	348	
50358	195	200	222	239	257	282	301	330	357	373	379	399	
50359	190	205	212	233	248	270	284	298	319	335	343	352	
50360	166	180	191	204	213	228	247	264	273	277	294	302	
n	10	10	10	10	10	10	10	10	10	10	10	10	
Mean	182.7	195.7	203.0	216.7	231.4	251.3	268.7	286.0	304.5	318.6	330.2	340.6	
S.D.	9.8	10.3	14.7	17.5	21.3	25.8	27.9	31.2	39.0	43.3	41.3	46.6	

Animal No.	/Day				Body weight gain
	70	77	84	90	
50351	365	374	380	380	186
50352	399	414	411	419	242
50353	242	256	262	257	76
50354	369	371	387	394	219
50355	324	333	341	346	159
50356	360	364	370	370	181
50357	363	371	373	389	216
50358	409	415	423	437	242
50359	361	367	374	379	189
50360	304	307	319	320	154
n	10	10	10	10	10
Mean	349.6	357.2	364.0	369.1	186.4
S.D.	48.7	48.0	46.7	51.5	49.6

Animal No.	Body weight												
	Sex : Female												
Period : Administration Day 1-91													
Dose : 4-methylbenzaldehyde 1000 mg/kg													
Unit : g													
Species : Rat													
	/Day												
	1	4	7	10	14	21	28	35	42	49	56	63	
50451	177	192	208	221	236	242	267	282	290	282	301	303	
50452	191	210	221	228	240	251	271	279	286	291	295	309	
50453	179	195	204	209	218	245	258	274	280	297	298	304	
50454	185	205	218	228	245	277	288	292	286	304	298	306	
50455	195	209	217	228	241	269	277	291	287	299	308	308	
50456	162	177	191	200	209	215	234	250	246	266	268	287	
50457	186	201	212	210	226	258	276	291	288	306	302	296	
50458	182	191	208	218	225	231	231	248	258	267	264	274	
50459	182	197	207	213	227	244	252	257	277	288	291	288	
50460	173	185	186	188	198	225	240	255	251	268	273	279	
n	10	10	10	10	10	10	10	10	10	10	10	10	
Mean	181.2	196.2	207.2	214.3	226.5	245.7	259.4	271.9	274.9	286.8	289.8	295.4	
S.D.	9.3	10.5	11.3	13.2	15.0	19.2	19.7	17.8	16.7	15.4	15.6	12.7	

Animal No.	/Day				Body weight gain
	70	77	84	90	
50451	316	323	320	332	155
50452	311	321	346	335	144
50453	304	318	327	331	152
50454	300	314	338	321	136
50455	302	305	307	309	114
50456	284	297	306	295	133
50457	303	304	302	303	117
50458	280	282	284	295	113
50459	308	316	324	324	142
50460	269	283	290	285	112
n	10	10	10	10	10
Mean	297.7	306.3	314.4	313.0	131.8
S.D.	15.0	15.0	20.1	18.0	16.7

Food consumption		Period : Administration Day 1-91											
Sex : Male		Dose : 4-methylbenzaldehyde 0 mg/kg											
		Unit : g										Species : Rat	
Animal No.	/Day	4	7	10	14	21	28	35	42	49	56	63	70
10101		24.1	22.9	24.1	24.6	24.7	23.8	22.8	22.8	21.7	21.2	20.9	21.2
10102		24.1	24.4	24.4	25.9	25.4	24.3	22.3	21.0	19.4	18.5	20.0	19.6
10103		23.4	25.9	25.0	25.2	21.3	21.4	22.2	21.3	23.2	24.0	24.0	23.1
10104		21.5	23.6	26.2	26.4	26.2	25.8	26.2	25.0	24.6	24.2	23.6	23.3
10105		24.4	25.0	26.0	26.0	25.8	24.6	23.9	24.0	24.7	25.0	23.9	24.4
10106		22.9	24.4	25.0	26.5	26.5	27.1	27.8	27.6	26.1	26.2	26.0	25.6
10107		25.0	26.1	24.8	27.1	27.4	26.8	26.2	26.2	25.0	24.7	24.0	24.9
10108		23.8	25.7	26.7	25.7	25.5	26.2	25.7	26.0	24.5	26.0	26.6	26.4
10109		24.4	25.2	24.4	23.7	23.3	23.3	23.2	22.8	24.1	22.0	21.2	20.8
10110		23.5	24.4	24.7	25.6	24.3	24.3	24.1	23.9	23.2	25.7	22.4	22.9
n		10	10	10	10	10	10	10	10	10	10	10	10
Mean		23.71	24.76	25.13	25.67	25.04	24.76	24.44	24.06	23.65	23.75	23.26	23.22
S.D.		0.98	1.02	0.87	0.98	1.75	1.75	1.92	2.16	1.92	2.47	2.15	2.19

Animal No.	/Day	77	84	90
10101		20.8	20.9	19.3
10102		20.2	18.5	17.4
10103		24.5	23.8	22.4
10104		23.2	22.9	20.9
10105		24.8	24.2	20.4
10106		25.0	22.1	23.1
10107		24.8	24.2	22.4
10108		25.9	24.6	24.1
10109		21.2	21.2	20.1
10110		23.1	23.8	22.2
n		10	10	10
Mean		23.35	22.62	21.23
S.D.		2.00	1.94	2.00

Food consumption		Period : Administration Day 1-91											
Sex : Male		Dose : 4-methylbenzaldehyde 100 mg/kg											
		Unit : g										Species : Rat	
Animal No.	/Day	4	7	10	14	21	28	35	42	49	56	63	70
10201		21.3	22.4	22.4	22.9	23.0	23.0	22.1	21.3	22.3	24.4	22.1	21.6
10202		22.7	23.8	24.5	25.1	23.9	22.6	22.4	21.4	20.7	20.8	20.3	21.4
10203		24.1	24.2	25.3	24.6	24.7	24.9	24.9	26.4	24.3	24.2	24.7	24.0
10204		22.1	23.8	22.0	21.1	21.4	21.7	22.4	22.7	22.8	22.1	21.9	21.3
10205		23.9	24.2	25.4	25.0	25.5	24.2	25.1	25.0	23.2	22.6	22.6	22.9
10206		25.8	27.7	27.4	28.7	28.6	26.8	26.4	25.4	24.6	24.9	22.1	22.8
10207		22.2	23.5	24.2	23.7	25.4	23.5	22.9	22.8	22.3	20.5	22.4	20.7
10208		22.5	24.1	25.4	24.8	25.7	23.5	24.4	24.5	24.3	24.6	24.0	23.8
10209		24.8	26.2	25.0	26.2	26.8	24.4	24.4	24.1	24.4	23.8	23.7	23.3
10210		25.0	25.7	25.8	24.2	24.6	23.9	23.5	22.6	22.5	22.5	21.3	21.7
n		10	10	10	10	10	10	10	10	10	10	10	10
Mean		23.44	24.56	24.74	24.63	24.96	23.85	23.85	23.62	23.14	23.04	22.51	22.35
S.D.		1.48	1.54	1.59	2.00	1.99	1.39	1.42	1.72	1.26	1.58	1.31	1.15

Animal No.	/Day	77	84	90
10201		21.4	21.0	18.7
10202		21.1	20.7	17.3
10203		22.8	23.2	19.2
10204		20.0	20.4	18.2
10205		21.7	21.2	19.9
10206		22.6	22.2	19.0
10207		20.9	20.1	18.4
10208		22.9	21.9	20.6
10209		22.6	23.1	21.9
10210		20.2	20.6	20.5
n		10	10	10
Mean		21.62	21.44	19.37
S.D.		1.08	1.11	1.36

Food consumption		Period : Administration Day 1-91											
Sex : Male		Dose : 4-methylbenzaldehyde 300 mg/kg											
		Unit : g										Species : Rat	
Animal No.	/Day	4	7	10	14	21	28	35	42	49	56	63	70
10301		23.9	22.5	24.7	24.3	24.7	24.6	24.3	24.9	25.2	24.8	23.2	23.4
10302		22.0	23.6	24.8	25.9	27.1	26.9	26.7	27.3	26.8	27.2	26.9	26.6
10303		25.1	24.3	25.4	27.4	25.6	25.5	26.5	28.2	27.1	27.6	27.7	28.7
10304		24.0	24.5	24.7	25.8	26.3	26.0	27.1	27.0	26.1	26.4	24.7	25.3
10305		22.3	24.5	22.6	24.9	25.8	26.1	26.4	26.0	25.1	25.9	26.4	27.5
10306		22.1	23.3	24.2	24.6	24.9	24.1	24.3	24.8	23.8	24.1	23.5	22.0
10307		26.6	27.0	27.8	27.4	27.3	26.3	26.5	25.7	24.8	26.0	23.5	23.0
10308		23.5	23.8	25.1	25.8	27.4	27.0	27.2	29.2	25.5	24.8	25.5	23.7
10309		24.9	25.6	25.9	26.4	26.4	26.4	26.2	26.0	24.8	25.1	24.1	24.1
10310		24.1	24.4	25.6	23.0	22.8	23.6	22.8	22.3	22.3	22.4	23.4	23.2
n		10	10	10	10	10	10	10	10	10	10	10	10
Mean		23.85	24.35	25.08	25.55	25.83	25.65	25.80	26.14	25.15	25.43	24.89	24.75
S.D.		1.47	1.25	1.32	1.38	1.42	1.17	1.47	1.94	1.40	1.53	1.64	2.19

Animal No.	/Day	77	84	90
10301		23.1	22.8	20.7
10302		26.2	25.7	20.4
10303		27.3	27.0	24.8
10304		25.9	24.9	22.6
10305		26.7	26.0	23.0
10306		21.7	21.1	21.7
10307		23.8	24.1	22.6
10308		23.9	23.8	22.3
10309		24.5	24.2	23.0
10310		22.9	22.7	22.8
n		10	10	10
Mean		24.60	24.23	22.39
S.D.		1.85	1.76	1.25

Food consumption		Period : Administration Day 1-91											
Sex : Male		Dose : 4-methylbenzaldehyde 1000 mg/kg											
		Unit : g										Species : Rat	
Animal No.	/Day	4	7	10	14	21	28	35	42	49	56	63	70
10401		22.4	23.6	24.9	24.5	24.6	24.8	24.3	24.7	24.4	24.5	23.5	24.7
10402		19.9	24.1	24.4	25.9	24.8	24.5	24.1	24.3	23.1	24.2	23.0	19.8
10403		23.1	25.7	25.3	25.5	25.5	26.1	26.0	25.4	26.4	25.6	25.1	26.2
10404		27.5	29.5	30.8	31.0	30.8	30.8	31.6	30.4	28.4	28.2	25.9	24.2
10405		24.2	26.1	27.9	29.4	29.8	29.8	28.3	27.3	26.5	26.6	25.7	25.1
10406		22.2	24.8	24.8	24.9	26.2	26.8	28.4	27.1	23.7	27.4	27.0	27.8
10407		22.7	25.0	25.1	26.2	26.6	25.4	25.4	25.1	24.9	24.5	23.5	22.4
10408		23.0	24.2	24.3	26.8	27.3	26.4	25.9	25.6	23.8	23.0	21.9	22.7
10409		24.3	27.7	27.8	24.5	24.6	24.6	26.2	25.9	26.6	27.6	25.3	25.3
10410		25.1	26.9	29.0	29.9	31.0	30.7	30.8	29.6	28.7	27.6	28.0	28.1
n		10	10	10	10	10	10	10	10	10	10	10	10
Mean		23.44	25.76	26.43	26.86	27.12	26.99	27.10	26.54	25.65	25.92	24.89	24.63
S.D.		2.02	1.84	2.27	2.38	2.53	2.51	2.59	2.06	1.97	1.80	1.90	2.53

Animal No.	/Day	77	84	90
10401		24.2	23.4	21.2
10402		18.3	21.0	22.3
10403		25.1	25.3	23.8
10404		26.6	27.4	26.8
10405		25.8	24.3	19.0
10406		27.0	27.9	26.6
10407		25.0	23.3	21.9
10408		22.4	21.6	22.1
10409		25.7	25.5	25.5
10410		28.4	27.3	26.3
n		10	10	10
Mean		24.85	24.70	23.55
S.D.		2.82	2.41	2.66

Food consumption		Period : Administration Day 1-91											
Sex : Female		Dose : 4-methylbenzaldehyde 0 mg/kg											
		Unit : g										Species : Rat	
Animal No.	/Day	4	7	10	14	21	28	35	42	49	56	63	70
50151		14.6	18.6	17.4	17.5	17.1	17.9	18.5	17.2	17.5	17.5	18.0	17.2
50152		18.9	17.5	19.7	17.0	17.3	18.3	16.2	15.9	17.2	16.0	17.1	16.4
50153		17.6	19.9	19.1	19.5	19.9	19.4	18.6	17.2	16.6	16.7	16.7	16.1
50154		20.0	18.6	21.6	20.8	20.0	20.1	19.5	19.4	19.8	17.7	16.8	17.8
50155		19.0	17.7	18.0	18.0	18.8	20.9	19.6	18.5	18.6	18.7	18.5	18.3
50156		19.4	19.2	19.4	18.4	18.2	17.9	17.1	17.9	19.0	17.8	18.2	18.3
50157		16.9	14.4	18.4	16.3	16.3	18.8	25.1	21.6	13.2	14.0	17.5	17.9
50158		16.9	16.7	16.6	17.3	18.9	18.9	18.2	18.5	18.9	17.7	16.4	16.6
50159		20.0	18.7	21.2	19.2	19.5	18.1	20.5	18.4	19.5	18.6	17.1	19.0
50160		19.0	20.4	19.2	17.6	18.4	18.1	18.3	18.0	17.7	17.5	19.2	18.1
n		10	10	10	10	10	10	10	10	10	10	10	10
Mean		18.23	18.17	19.06	18.16	18.44	18.84	19.16	18.26	17.80	17.22	17.55	17.57
S.D.		1.71	1.72	1.56	1.34	1.24	1.02	2.42	1.51	1.92	1.38	0.90	0.95

Animal No.	/Day	77	84	90
50151		17.4	17.6	16.0
50152		18.0	18.3	18.3
50153		16.3	15.3	15.0
50154		17.2	17.9	16.9
50155		18.3	18.0	19.7
50156		18.4	15.7	16.9
50157		18.7	18.8	18.8
50158		16.8	15.2	13.0
50159		17.8	18.3	16.3
50160		17.9	18.8	17.7
n		10	10	10
Mean		17.68	17.39	16.86
S.D.		0.75	1.43	1.94

Food consumption		Period : Administration Day 1-91											
Sex : Female		Dose : 4-methylbenzaldehyde 100 mg/kg											
		Unit : g Species : Rat											
Animal No.	/Day												
	4	7	10	14	21	28	35	42	49	56	63	70	
50251	19.1	18.0	20.7	19.4	19.7	18.8	19.4	22.1	20.0	19.6	18.4	20.7	
50252	20.1	18.4	20.0	19.0	19.2	19.3	19.7	19.5	19.0	18.7	19.9	20.0	
50253	16.4	15.5	17.8	17.3	18.3	19.0	18.4	19.7	18.4	16.5	16.8	18.0	
50254	18.5	17.5	21.2	19.4	21.0	20.6	21.1	22.2	18.6	17.8	15.7	17.0	
50255	17.2	21.1	19.6	19.5	19.0	19.3	20.0	19.1	18.3	17.6	18.3	18.7	
50256	15.3	15.7	17.8	15.5	14.7	15.1	14.5	15.6	14.5	14.0	13.7	14.2	
50257	18.4	18.6	19.3	18.6	18.4	18.9	18.3	18.9	17.3	16.3	15.7	16.6	
50258	19.1	18.2	17.0	14.9	15.9	18.3	16.5	17.3	17.7	17.4	17.5	18.4	
50259	16.1	17.1	16.5	16.0	16.5	16.1	15.9	15.4	14.9	14.7	15.3	14.5	
50260	19.9	22.6	22.7	23.4	24.7	25.4	23.3	21.8	19.7	18.6	19.2	19.8	
n	10	10	10	10	10	10	10	10	10	10	10	10	
Mean	18.01	18.27	19.26	18.30	18.74	19.08	18.71	19.16	17.84	17.12	17.05	17.79	
S.D.	1.66	2.19	1.98	2.50	2.82	2.74	2.60	2.49	1.85	1.77	1.95	2.22	

Animal No.	/Day		
	77	84	90
50251	19.5	17.4	16.3
50252	18.3	18.1	15.7
50253	16.9	16.4	14.8
50254	16.5	17.4	18.3
50255	18.0	17.6	15.3
50256	13.2	12.7	11.6
50257	16.2	15.8	15.8
50258	19.9	19.9	18.4
50259	13.7	13.5	14.2
50260	18.1	17.5	16.9
n	10	10	10
Mean	17.03	16.63	15.73
S.D.	2.23	2.15	2.00

Food consumption		Period : Administration Day 1-91											
Sex : Female		Dose : 4-methylbenzaldehyde 300 mg/kg											
		Unit : g										Species : Rat	
Animal No.	/Day	4	7	10	14	21	28	35	42	49	56	63	70
50351		18.4	18.0	20.1	19.3	17.3	17.4	17.8	19.0	18.5	18.6	19.1	19.3
50352		19.5	18.2	17.7	19.5	20.2	21.0	21.9	21.9	23.9	21.3	17.4	15.8
50353		12.7	14.0	15.0	13.7	15.4	15.3	15.7	15.7	16.9	17.2	15.7	16.5
50354		19.8	17.6	17.8	19.3	19.9	20.5	20.1	20.0	19.9	21.3	22.6	21.6
50355		18.4	17.3	21.1	18.8	19.3	19.1	19.6	20.3	19.0	20.4	18.1	18.6
50356		18.0	18.2	21.6	20.3	19.9	20.4	20.7	21.5	19.3	16.8	18.2	18.1
50357		17.5	15.8	18.1	17.0	18.3	18.6	20.1	20.8	20.6	22.2	22.8	20.9
50358		18.1	20.7	19.7	21.7	21.7	23.3	23.2	23.9	23.3	21.7	21.3	19.9
50359		17.7	18.8	21.7	19.2	19.6	19.4	20.2	20.4	20.0	19.6	19.5	18.5
50360		17.6	17.2	16.9	17.0	17.7	18.6	17.9	18.5	16.9	18.0	16.9	17.0
n		10	10	10	10	10	10	10	10	10	10	10	10
Mean		17.77	17.58	18.97	18.58	18.93	19.36	19.72	20.20	19.83	19.71	19.16	18.62
S.D.		1.94	1.78	2.22	2.21	1.79	2.16	2.15	2.19	2.34	1.96	2.40	1.87

Animal No.	/Day	77	84	90
50351		18.2	17.8	17.3
50352		17.9	16.2	15.4
50353		18.3	17.5	15.3
50354		20.6	20.0	18.9
50355		18.0	19.2	18.2
50356		16.7	15.9	15.2
50357		19.6	19.1	18.5
50358		19.9	19.7	18.0
50359		16.7	18.2	16.1
50360		16.5	17.0	14.8
n		10	10	10
Mean		18.24	18.06	16.77
S.D.		1.42	1.43	1.57

Food consumption		Period : Administration Day 1-91											
Sex : Female		Dose : 4-methylbenzaldehyde 1000 mg/kg											
		Unit : g										Species : Rat	
Animal No.	/Day	4	7	10	14	21	28	35	42	49	56	63	70
50451		18.7	21.0	21.7	21.8	21.5	23.2	21.8	21.7	20.4	22.1	22.9	21.4
50452		22.2	21.9	21.8	22.7	22.6	22.1	22.0	21.7	21.7	23.0	22.6	21.9
50453		18.1	18.5	19.7	19.6	20.9	21.0	21.1	21.7	22.0	19.7	20.4	18.9
50454		20.3	22.9	23.2	24.0	25.1	25.0	23.9	23.6	23.4	21.0	22.3	19.3
50455		18.4	20.7	21.5	21.6	22.9	21.5	22.0	22.3	21.4	21.7	21.6	20.0
50456		19.1	18.9	21.0	19.7	20.4	21.0	21.4	19.9	20.7	19.8	21.4	20.2
50457		19.4	20.0	20.0	21.4	22.3	22.4	22.5	22.5	22.7	19.7	20.0	20.3
50458		21.4	23.1	22.5	21.1	20.5	19.6	20.9	20.1	21.3	20.7	21.1	20.3
50459		18.6	20.2	19.9	20.2	20.1	19.8	19.4	21.4	19.4	19.8	20.5	22.1
50460		18.7	17.7	19.3	19.9	21.3	21.1	21.3	21.2	22.2	21.6	21.2	20.4
n		10	10	10	10	10	10	10	10	10	10	10	10
Mean		19.49	20.49	21.06	21.20	21.76	21.67	21.63	21.61	21.52	20.91	21.40	20.48
S.D.		1.37	1.81	1.30	1.42	1.52	1.60	1.16	1.09	1.16	1.17	0.97	1.04

Animal No.	/Day	77	84	90
50451		22.7	21.5	20.7
50452		24.1	24.1	24.5
50453		21.5	19.7	20.0
50454		22.4	25.1	19.0
50455		20.9	21.4	21.2
50456		20.8	20.5	18.2
50457		19.4	19.0	19.1
50458		20.6	21.4	20.6
50459		20.3	20.9	19.7
50460		22.1	20.7	20.1
n		10	10	10
Mean		21.48	21.43	20.31
S.D.		1.37	1.86	1.72

Ophthalmology		Dose : 4-methylbenzaldehyde 0 mg/kg				Species : Rat			
Sex : Male		Period Before the start of administration				Week 13 of administration			
Animal No.	Findings	SL-R	SL-L	FS-R	FS-L	SL-R	SL-L	FS-R	FS-L
10101	No abnormality	-	-	-	-	-	-	-	-
10102	No abnormality	-	-	-	-	-	-	-	-
10103	No abnormality	-	-	-	-	-	-	-	-
10104	No abnormality	-	-	-	-	-	-	-	-
10105	No abnormality	-	-	-	-	-	-	-	-
10106	No abnormality	-	-	-	-	...	...	...	...
10107	No abnormality	-	-	-	-	...	...	...	...
10108	No abnormality	-	-	-	-	...	...	...	...
10109	No abnormality	-	-	-	-	...	...	...	...
10110	No abnormality	-	-	-	-	...	...	...	...

SL : Slit lamp examination, FS : Funduscopy

R : Right, L : Left

... : No data

Ophthalmology		Dose : 4-methylbenzaldehyde 100 mg/kg				Species : Rat			
Sex : Male		Period Before the start of administration				Week 13 of administration			
Animal No.	Findings	SL-R	SL-L	FS-R	FS-L	SL-R	SL-L	FS-R	FS-L
10201	No abnormality	-	-	-	-	-	-	-	-
10202	No abnormality	-	-	-	-	-	-	-	-
10203	No abnormality	-	-	-	-	-	-	-	-
10204	No abnormality	-	-	-	-	-	-	-	-
10205	No abnormality	-	-	-	-	-	-	-	-
10206	No abnormality	-	-	-	-	...	...	...	...
10207	No abnormality	-	-	-	-	...	...	...	...
10208	No abnormality	-	-	-	-	...	...	...	...
10209	No abnormality	-	-	-	-	...	...	...	...
10210	No abnormality	-	-	-	-	...	...	...	...

SL : Slit lamp examination, FS : Funduscopy

R : Right, L : Left

... : No data

Ophthalmology		Dose : 4-methylbenzaldehyde 300 mg/kg				Species : Rat			
Sex : Male		Period Before the start of administration				Week 13 of administration			
Animal No.	Findings	SL-R	SL-L	FS-R	FS-L	SL-R	SL-L	FS-R	FS-L
10301	No abnormality	-	-	-	-	-	-	-	-
10302	No abnormality	-	-	-	-	-	-	-	-
10303	No abnormality	-	-	-	-	-	-	-	-
10304	No abnormality	-	-	-	-	-	-	-	-
10305	No abnormality	-	-	-	-	-	-	-	-
10306	No abnormality	-	-	-	-	...	...	...	...
10307	No abnormality	-	-	-	-	...	...	...	...
10308	No abnormality	-	-	-	-	...	...	...	...
10309	No abnormality	-	-	-	-	...	...	...	...
10310	No abnormality	-	-	-	-	...	...	...	...

SL : Slit lamp examination, FS : Funduscopy

R : Right, L : Left

... : No data

Ophthalmology		Dose : 4-methylbenzaldehyde 1000 mg/kg				Species : Rat			
Sex : Male		Period Before the start of administration				Week 13 of administration			
Animal No.	Findings	SL-R	SL-L	FS-R	FS-L	SL-R	SL-L	FS-R	FS-L
10401	No abnormality	-	-	-	-	-	-	-	-
10402	No abnormality	-	-	-	-	-	-	-	-
10403	No abnormality	-	-	-	-	-	-	-	-
10404	No abnormality	-	-	-	-	-	-	-	-
10405	No abnormality	-	-	-	-	-	-	-	-
10406	No abnormality	-	-	-	-	...	...	...	...
10407	No abnormality	-	-	-	-	...	...	...	...
10408	No abnormality	-	-	-	-	...	...	...	...
10409	No abnormality	-	-	-	-	...	...	...	...
10410	No abnormality	-	-	-	-	...	...	...	...

SL : Slit lamp examination, FS : Funduscopy

R : Right, L : Left

... : No data

Ophthalmology		Dose : 4-methylbenzaldehyde 0 mg/kg				Species : Rat			
Sex : Female		Period Before the start of administration				Week 13 of administration			
Animal No.	Findings	SL-R	SL-L	FS-R	FS-L	SL-R	SL-L	FS-R	FS-L
50151	No abnormality	-	-	-	-	-	-	-	-
50152	No abnormality	-	-	-	-	-	-	-	-
50153	No abnormality	-	-	-	-	-	-	-	-
50154	No abnormality	-	-	-	-	-	-	-	-
50155	No abnormality	-	-	-	-	-	-	-	-
50156	No abnormality	-	-	-	-	...	...	...	...
50157	No abnormality	-	-	-	-	...	...	...	...
50158	No abnormality	-	-	-	-	...	...	...	...
50159	No abnormality	-	-	-	-	...	...	...	...
50160	No abnormality	-	-	-	-	...	...	...	...

SL : Slit lamp examination, FS : Funduscopy

R : Right, L : Left

... : No data

Ophthalmology		Dose : 4-methylbenzaldehyde 100 mg/kg				Species : Rat			
Sex : Female		Period Before the start of administration				Week 13 of administration			
Animal No.	Findings	SL-R	SL-L	FS-R	FS-L	SL-R	SL-L	FS-R	FS-L
50251	No abnormality	-	-	-	-	-	-	-	-
50252	No abnormality	-	-	-	-	-	-	-	-
50253	No abnormality	-	-	-	-	-	-	-	-
50254	No abnormality	-	-	-	-	-	-	-	-
50255	No abnormality	-	-	-	-	-	-	-	-
50256	No abnormality	-	-	-	-	...	...	...	...
50257	No abnormality	-	-	-	-	...	...	...	...
50258	No abnormality	-	-	-	-	...	...	...	...
50259	No abnormality	-	-	-	-	...	...	...	...
50260	No abnormality	-	-	-	-	...	...	...	...

SL : Slit lamp examination, FS : Funduscopy

R : Right, L : Left

... : No data

Ophthalmology		Dose : 4-methylbenzaldehyde 300 mg/kg				Species : Rat			
Sex : Female		Period Before the start of administration				Week 13 of administration			
Animal No.	Findings	SL-R	SL-L	FS-R	FS-L	SL-R	SL-L	FS-R	FS-L
50351	No abnormality	-	-	-	-	-	-	-	-
50352	No abnormality	-	-	-	-	-	-	-	-
50353	No abnormality	-	-	-	-	-	-	-	-
50354	No abnormality	-	-	-	-	-	-	-	-
50355	No abnormality	-	-	-	-	-	-	-	-
50356	No abnormality	-	-	-	-	...	...	...	...
50357	No abnormality	-	-	-	-	...	...	...	...
50358	No abnormality	-	-	-	-	...	...	...	...
50359	No abnormality	-	-	-	-	...	...	...	...
50360	No abnormality	-	-	-	-	...	...	...	...

SL : Slit lamp examination, FS : Funduscopy

R : Right, L : Left

... : No data

Ophthalmology		Dose : 4-methylbenzaldehyde 1000 mg/kg				Species : Rat			
Sex : Female		Period Before the start of administration				Week 13 of administration			
Animal No.	Findings	SL-R	SL-L	FS-R	FS-L	SL-R	SL-L	FS-R	FS-L
50451	No abnormality	-	-	-	-	-	-	-	-
50452	No abnormality	-	-	-	-	-	-	-	-
50453	No abnormality	-	-	-	-	-	-	-	-
50454	No abnormality	-	-	-	-	-	-	-	-
50455	No abnormality	-	-	-	-	-	-	-	-
50456	No abnormality	-	-	-	-	...	...	...	...
50457	No abnormality	-	-	-	-	...	...	...	...
50458	No abnormality	-	-	-	-	...	...	...	...
50459	No abnormality	-	-	-	-	...	...	...	...
50460	No abnormality	-	-	-	-	...	...	...	...

SL : Slit lamp examination, FS : Funduscopy

R : Right, L : Left

... : No data

Animal No.	Urinary findings			Stage : Week 13					Species : Rat			
	pH	Glucose	Ketone body	Urobilinogen	Bilirubin	Occult blood	Protein	Specific gravity	RBC	WBC	Squamous	
				EU/dL								
10101	8.5	-	-	0.1	-	-	2+	5	-	-	-	
10102	8.5	-	-	0.1	-	-	2+	5	-	-	-	
10103	8.0	-	-	0.1	-	±	2+	5	-	-	-	
10104	8.5	-	-	0.1	-	-	+	4	-	-	-	
10105	8.5	-	-	0.1	-	-	+	5	-	-	-	
n	5	5	5	5	5	5	5	5	5	5	5	

Animal No.	Round	Small round	Cast
10101	-	-	-
10102	-	-	-
10103	-	-	-
10104	-	-	-
10105	-	-	-
n	5	5	5

Specific gravity) 0;1.001~1.010,1;1.011~1.020,2;1.021~1.030,3;1.031~1.040,4;1.041~1.050,5;1.050<

Animal No.	Urinary findings Sex : Male			Stage : Week 13 Dose : 4-methylbenzaldehyde 0 mg/kg			Species : Rat		
	Urine volume			U-Na	U-K	U-Cl	U-Na	U-K	U-Cl
	(3hr) mL	(21hr) mL	(Total) mL/21hr	mEq/L	mEq/L	mEq/L	mEq/21hr	mEq/21hr	mEq/21hr
10101	0.5	6.0	6.5	103.5	360.6	154.2	0.67	2.34	1.00
10102	0.5	5.0	5.5	117.0	352.2	173.7	0.64	1.94	0.96
10103	0.5	8.0	8.5	98.4	353.4	150.0	0.84	3.00	1.28
10104	1.0	10.0	11.0	136.5	293.7	161.4	1.50	3.23	1.78
10105	1.0	6.0	7.0	109.5	327.6	139.8	0.77	2.29	0.98
n	5	5	5	5	5	5	5	5	5
Mean	0.70	7.00	7.70	112.98	337.50	155.82	0.884	2.560	1.200
S.D.	0.27	2.00	2.14	14.87	27.47	12.69	0.353	0.536	0.350

Urinary findings Sex : Male	Stage : Week 13 Dose : 4-methylbenzaldehyde 100 mg/kg							Species : Rat				
	pH	Glucose	Ketone body	Urobilinogen	Bilirubin	Occult blood	Protein	Specific gravity	RBC	WBC	Squamous	
Animal No.	EU/dL											
10201	8.0	-	-	0.1	-	-	2+	5	-	-	-	
10202	8.5	-	-	0.1	-	-	2+	5	-	-	-	
10203	7.5	-	-	0.1	-	-	+	4	-	-	-	
10204	8.0	-	-	0.1	-	±	+	5	-	-	-	
10205	8.0	-	-	0.1	-	±	+	4	-	-	-	
n	5	5	5	5	5	5	5	5	5	5	5	
	Round	Small round	Cast									
Animal No.												
10201	-	-	-									
10202	-	-	-									
10203	-	-	-									
10204	-	-	-									
10205	-	-	-									
n	5	5	5									
Specific gravity) 0;1.001~1.010,1;1.011~1.020,2;1.021~1.030,3;1.031~1.040,4;1.041~1.050,5;1.050<												

Animal No.	Urinary findings Sex : Male			Stage : Week 13 Dose : 4-methylbenzaldehyde 100 mg/kg			Species : Rat		
	Urine volume			U-Na	U-K	U-Cl	U-Na	U-K	U-Cl
	(3hr) mL	(21hr) mL	(Total) mL/21hr	mEq/L	mEq/L	mEq/L	mEq/21hr	mEq/21hr	mEq/21hr
10201	0.5	5.0	5.5	173.7	447.0	248.4	0.96	2.46	1.37
10202	1.0	5.0	6.0	81.6	348.6	139.5	0.49	2.09	0.84
10203	1.0	8.5	9.5	110.7	303.0	176.1	1.05	2.88	1.67
10204	0.5	6.5	7.0	134.7	366.6	204.3	0.94	2.57	1.43
10205	0.5	11.0	11.5	98.7	237.0	113.4	1.14	2.73	1.30
n	5	5	5	5	5	5	5	5	5
Mean	0.70	7.20	7.90	119.88	340.44	176.34	0.916	2.546	1.322
S.D.	0.27	2.56	2.53	35.76	77.79	53.13	0.251	0.301	0.303

Urinary findings Sex : Male	Stage : Week 13 Dose : 4-methylbenzaldehyde 300 mg/kg							Species : Rat			
	pH	Glucose	Ketone body	Urobilinogen	Bilirubin	Occult blood	Protein	Specific gravity	RBC	WBC	Squamous
Animal No.	EU/dL										
10301	8.0	-	-	0.1	-	-	+	5	-	-	±
10302	8.0	-	-	0.1	-	-	±	4	-	-	-
10303	8.5	-	-	0.1	-	-	±	5	-	-	-
10304	8.5	-	-	0.1	-	-	+	5	-	-	-
10305	8.5	-	-	0.1	-	-	+	5	-	-	-
n	5	5	5	5	5	5	5	5	5	5	5
	Round	Small round	Cast								
Animal No.											
10301	-	-	-								
10302	-	-	-								
10303	-	-	-								
10304	-	-	-								
10305	-	-	-								
n	5	5	5								
Specific gravity) 0;1.001~1.010,1;1.011~1.020,2;1.021~1.030,3;1.031~1.040,4;1.041~1.050,5;1.050<											

Animal No.	Urinary findings Sex : Male			Stage : Week 13 Dose : 4-methylbenzaldehyde 300 mg/kg			Species : Rat		
	Urine volume			U-Na	U-K	U-Cl	U-Na	U-K	U-Cl
	(3hr) mL	(21hr) mL	(Total) mL/21hr	mEq/L	mEq/L	mEq/L	mEq/21hr	mEq/21hr	mEq/21hr
10301	1.0	5.5	6.5	140.4	328.8	187.5	0.91	2.14	1.22
10302	1.0	16.0	17.0	87.6	201.6	98.7	1.49	3.43	1.68
10303	1.0	10.0	11.0	140.4	278.1	153.6	1.54	3.06	1.69
10304	1.0	11.0	12.0	82.2	225.3	97.5	0.99	2.70	1.17
10305	1.0	8.5	9.5	124.5	276.3	114.9	1.18	2.62	1.09
n	5	5	5	5	5	5	5	5	5
Mean	1.00	10.20	11.20	115.02	262.02	130.44	1.222	2.790	1.370
S.D.	0.00	3.85	3.85	28.32	49.80	39.13	0.285	0.485	0.291

Urinary findings Sex : Male	Stage : Week 13 Dose : 4-methylbenzaldehyde 1000 mg/kg							Species : Rat			
	pH	Glucose	Ketone body	Urobilinogen	Bilirubin	Occult blood	Protein	Specific gravity	RBC	WBC	Squamous
Animal No.	EU/dL										
10401	7.5	-	-	0.1	-	-	±	5	-	-	-
10402	7.0	-	-	0.1	-	-	±	5	-	-	-
10403	7.5	-	-	0.1	-	-	±	5	-	-	-
10404	6.5	-	-	0.1	-	-	±	5	-	-	-
10405	7.0	-	-	0.1	-	±	+	3	-	-	±
n	5	5	5	5	5	5	5	5	5	5	5
	Round	Small round	Cast								
Animal No.											
10401	-	-	-								
10402	-	-	-								
10403	-	-	-								
10404	-	-	-								
10405	-	-	-								
n	5	5	5								
Specific gravity) 0;1.001~1.010,1;1.011~1.020,2;1.021~1.030,3;1.031~1.040,4;1.041~1.050,5;1.050<											

Animal No.	Urinary findings Sex : Male			Stage : Week 13 Dose : 4-methylbenzaldehyde 1000 mg/kg			Species : Rat		
	Urine volume			U-Na	U-K	U-Cl	U-Na	U-K	U-Cl
	(3hr) mL	(21hr) mL	(Total) mL/21hr	mEq/L	mEq/L	mEq/L	mEq/21hr	mEq/21hr	mEq/21hr
10401	1.0	14.0	15.0	147.9	219.9	95.1	2.22	3.30	1.43
10402	1.0	16.0	17.0	113.7	207.9	83.7	1.93	3.53	1.42
10403	1.0	16.0	17.0	140.7	183.3	102.0	2.39	3.12	1.73
10404	1.0	20.0	21.0	108.3	182.1	80.1	2.27	3.82	1.68
10405	1.0	28.0	29.0	60.3	87.0	33.3	1.75	2.52	0.97
n	5	5	5	5	5	5	5	5	5
Mean	1.00	18.80	19.80	114.18	176.04	78.84	2.112	3.258	1.446
S.D.	0.00	5.59	5.59	34.56	52.34	26.93	0.264	0.489	0.301

Animal No.	Urinary findings			Stage : Week 13					Species : Rat			
	pH	Glucose	Ketone body	Urobilinogen	Bilirubin	Occult blood	Protein	Specific gravity	RBC	WBC	Squamous	
				EU/dL								
50151	7.5	-	-	0.1	-	-	±	3	-	-	-	
50152	8.5	-	-	0.1	-	-	+	4	-	-	±	
50153	8.5	-	-	0.1	-	-	+	5	-	-	-	
50154	8.5	-	-	0.1	-	-	2+	5	-	-	-	
50155	7.0	-	-	0.1	-	-	+	4	-	-	-	
n	5	5	5	5	5	5	5	5	5	5	5	

Animal No.	Round	Small round	Cast
50151	-	-	-
50152	-	-	-
50153	-	-	-
50154	-	-	-
50155	-	-	-
n	5	5	5

Specific gravity) 0;1.001~1.010,1;1.011~1.020,2;1.021~1.030,3;1.031~1.040,4;1.041~1.050,5;1.050<

Animal No.	Urinary findings Sex : Female			Stage : Week 13 Dose : 4-methylbenzaldehyde 0 mg/kg			Species : Rat		
	Urine volume			U-Na	U-K	U-Cl	U-Na	U-K	U-Cl
	(3hr) mL	(21hr) mL	(Total) mL/21hr	mEq/L	mEq/L	mEq/L	mEq/21hr	mEq/21hr	mEq/21hr
50151	1.0	14.5	15.5	81.3	186.9	86.7	1.26	2.90	1.34
50152	0.5	8.5	9.0	117.6	285.3	161.1	1.06	2.57	1.45
50153	0.5	7.0	7.5	139.8	321.6	205.5	1.05	2.41	1.54
50154	0.5	4.5	5.0	160.8	354.0	246.3	0.80	1.77	1.23
50155	1.0	9.0	10.0	79.5	212.1	121.5	0.80	2.12	1.22
n	5	5	5	5	5	5	5	5	5
Mean	0.70	8.70	9.40	115.80	271.98	164.22	0.994	2.354	1.356
S.D.	0.27	3.68	3.90	35.75	71.05	63.81	0.196	0.431	0.139

Animal No.	Urinary findings				Stage : Week 13				Species : Rat			
	pH	Glucose	Ketone body	Urobilinogen	Bilirubin	Occult blood	Protein	Specific gravity	RBC	WBC	Squamous	
				EU/dL								
50251	6.5	-	-	0.1	-	-	+	5	-	-	-	
50252	8.5	-	-	0.1	-	-	+	4	-	-	-	
50253	8.5	-	-	0.1	-	-	±	3	-	-	-	
50254	8.5	-	-	0.1	-	-	+	4	-	-	-	
50255	8.5	-	-	0.1	-	-	+	5	-	-	-	
n	5	5	5	5	5	5	5	5	5	5	5	

Animal No.	Round	Small round	Cast
	50251	-	-
50252	-	-	-
50253	-	-	-
50254	-	-	-
50255	-	-	-
n	5	5	5

Specific gravity) 0;1.001~1.010,1;1.011~1.020,2;1.021~1.030,3;1.031~1.040,4;1.041~1.050,5;1.050<

Animal No.	Urinary findings Sex : Female			Stage : Week 13 Dose : 4-methylbenzaldehyde 100 mg/kg			Species : Rat		
	Urine volume			U-Na	U-K	U-Cl	U-Na	U-K	U-Cl
	(3hr) mL	(21hr) mL	(Total) mL/21hr	mEq/L	mEq/L	mEq/L	mEq/21hr	mEq/21hr	mEq/21hr
50251	0.5	3.0	3.5	120.0	354.0	162.3	0.42	1.24	0.57
50252	1.0	7.5	8.5	127.8	293.4	175.8	1.09	2.49	1.49
50253	0.5	13.5	14.0	67.2	189.3	87.3	0.94	2.65	1.22
50254	1.0	9.0	10.0	77.7	264.3	142.8	0.78	2.64	1.43
50255	0.5	6.0	6.5	155.1	349.2	186.9	1.01	2.27	1.21
n	5	5	5	5	5	5	5	5	5
Mean	0.70	7.80	8.50	109.56	290.04	151.02	0.848	2.258	1.184
S.D.	0.27	3.88	3.92	36.49	67.85	39.23	0.265	0.589	0.365

Urinary findings Sex : Female	Stage : Week 13 Dose : 4-methylbenzaldehyde 300 mg/kg							Species : Rat			
	pH	Glucose	Ketone body	Urobilinogen	Bilirubin	Occult blood	Protein	Specific gravity	RBC	WBC	Squamous
Animal No.	EU/dL										
50351	8.5	-	-	0.1	-	-	-	4	-	-	-
50352	6.5	-	-	0.1	-	-	-	4	-	-	-
50353	8.0	-	-	0.1	-	-	-	5	-	-	-
50354	7.5	-	-	0.1	-	-	+	4	-	-	-
50355	7.0	-	-	0.1	-	-	±	2	-	-	-
n	5	5	5	5	5	5	5	5	5	5	5
	Round	Small round	Cast								
Animal No.											
50351	-	-	-								
50352	-	-	-								
50353	-	-	-								
50354	-	-	-								
50355	-	-	-								
n	5	5	5								
Specific gravity) 0;1.001~1.010,1;1.011~1.020,2;1.021~1.030,3;1.031~1.040,4;1.041~1.050,5;1.050<											

Animal No.	Urinary findings Sex : Female			Stage : Week 13 Dose : 4-methylbenzaldehyde 300 mg/kg			Species : Rat		
	Urine volume			U-Na	U-K	U-Cl	U-Na	U-K	U-Cl
	(3hr) mL	(21hr) mL	(Total) mL/21hr	mEq/L	mEq/L	mEq/L	mEq/21hr	mEq/21hr	mEq/21hr
50351	1.0	11.5	12.5	102.9	241.2	134.1	1.29	3.02	1.68
50352	1.0	10.0	11.0	109.2	225.6	118.2	1.20	2.48	1.30
50353	1.0	5.0	6.0	78.6	251.4	123.0	0.47	1.51	0.74
50354	1.0	10.5	11.5	99.3	203.7	113.7	1.14	2.34	1.31
50355	1.0	27.0	28.0	72.9	130.8	78.9	2.04	3.66	2.21
n	5	5	5	5	5	5	5	5	5
Mean	1.00	12.80	13.80	92.58	210.54	113.58	1.228	2.602	1.448
S.D.	0.00	8.33	8.33	15.90	48.07	20.82	0.558	0.802	0.542

Animal No.	Urinary findings			Stage : Week 13					Species : Rat			
	pH	Glucose	Ketone body	Urobilinogen	Bilirubin	Occult blood	Protein	Specific gravity	RBC	WBC	Squamous	
				EU/dL								
50451	7.5	-	-	0.1	-	-	-	4	-	-	-	
50452	7.0	-	-	0.1	-	-	±	3	-	-	-	
50453	8.0	-	-	0.1	-	-	-	3	-	-	-	
50454	7.5	-	-	0.1	-	-	±	5	-	-	-	
50455	7.0	-	-	0.1	-	-	±	5	-	-	+	
n	5	5	5	5	5	5	5	5	5	5	5	

Animal No.	Round	Small round	Cast
50451	-	-	-
50452	-	-	-
50453	-	-	-
50454	-	-	-
50455	-	-	-
n	5	5	5

Specific gravity) 0;1.001~1.010,1;1.011~1.020,2;1.021~1.030,3;1.031~1.040,4;1.041~1.050,5;1.050<

Animal No.	Urinary findings Sex : Female			Stage : Week 13 Dose : 4-methylbenzaldehyde 1000 mg/kg			Species : Rat		
	Urine volume			U-Na	U-K	U-Cl	U-Na	U-K	U-Cl
	(3hr) mL	(21hr) mL	(Total) mL/21hr	mEq/L	mEq/L	mEq/L	mEq/21hr	mEq/21hr	mEq/21hr
50451	1.0	16.5	17.5	94.5	165.6	81.9	1.65	2.90	1.43
50452	1.0	31.5	32.5	60.0	121.8	60.9	1.95	3.96	1.98
50453	1.0	26.0	27.0	57.6	123.6	58.5	1.56	3.34	1.58
50454	1.0	13.5	14.5	117.9	190.8	93.3	1.71	2.77	1.35
50455	1.0	12.0	13.0	115.2	200.7	105.0	1.50	2.61	1.37
n	5	5	5	5	5	5	5	5	5
Mean	1.00	19.90	20.90	89.04	160.50	79.92	1.674	3.116	1.542
S.D.	0.00	8.47	8.47	29.06	36.81	20.20	0.174	0.544	0.261

Hematological findings		Stage : Day 91							Species : Rat			
Sex : Male		Dose : 4-methylbenzaldehyde 0 mg/kg										
	RBC	HGB	HCT	MCV	MCH	MCHC	Reticulocyte	Platelet	WBC	Neutrophil	Lymphocyte	
Animal No.	10 ⁴ /μL	g/dL	%	fL	pg	g/dL	%	10 ⁴ /μL	10 ² /μL	10 ² /μL	10 ² /μL	
10101	858	15.0	41.1	47.9	17.5	36.5	2.75	100.4	82.8	13.0	66.4	
10102	830	14.2	39.3	47.3	17.1	36.1	2.22	86.1	53.7	13.4	35.2	
10103	901	15.8	44.1	48.9	17.5	35.8	3.69	97.5	53.0	18.1	31.5	
10104	955	16.5	45.4	47.5	17.3	36.3	2.74	118.7	93.6	40.5	45.0	
10105	873	15.4	42.4	48.6	17.6	36.3	2.78	90.1	57.8	12.6	42.2	
10106	984	16.3	44.7	45.4	16.6	36.5	2.41	113.5	144.4	14.8	122.0	
10107	954	16.1	44.9	47.1	16.9	35.9	3.16	145.7	111.6	19.5	82.2	
10108	950	16.1	45.0	47.4	16.9	35.8	2.67	102.5	99.2	20.2	71.9	
10109	970	16.9	46.6	48.0	17.4	36.3	2.45	106.4	97.8	12.3	78.9	
10110	944	16.4	45.3	48.0	17.4	36.2	2.28	122.0	75.5	11.5	59.5	
n	10	10	10	10	10	10	10	10	10	10	10	
Mean	921.9	15.87	43.88	47.61	17.22	36.17	2.715	108.29	86.94	17.59	63.48	
S.D.	52.6	0.80	2.25	0.96	0.33	0.26	0.441	17.52	28.82	8.64	27.34	

	Monocyte	Eosinophil	Basophil	PT	APTT
Animal No.	10 ² /μL	10 ² /μL	10 ² /μL	sec	sec
10101	2.3	1.1	0.0	16.8	17.6
10102	3.9	1.2	0.0	18.1	20.2
10103	2.5	0.9	0.0	21.6	22.2
10104	6.3	1.8	0.0	19.4	21.2
10105	2.0	1.0	0.0	19.3	20.3
10106	5.8	1.8	0.0	18.7	14.2
10107	7.3	2.5	0.1	16.9	17.8
10108	5.8	1.3	0.0	15.3	16.9
10109	5.1	1.4	0.1	20.1	19.1
10110	3.8	0.7	0.0	23.3	23.4
n	10	10	10	10	10
Mean	4.48	1.37	0.02	18.95	19.29
S.D.	1.85	0.53	0.04	2.37	2.74

Hematological findings		Stage : Day 91							Species : Rat			
Sex : Male		Dose : 4-methylbenzaldehyde 100 mg/kg										
	RBC	HGB	HCT	MCV	MCH	MCHC	Reticulocyte	Platelet	WBC	Neutrophil	Lymphocyte	
Animal No.	10 ⁴ /μL	g/dL	%	fL	pg	g/dL	%	10 ⁴ /μL	10 ² /μL	10 ² /μL	10 ² /μL	
10201	861	15.3	42.0	48.8	17.8	36.4	2.17	107.2	82.2	10.8	66.7	
10202	864	14.9	41.2	47.7	17.2	36.2	2.69	105.6	79.9	12.8	63.1	
10203	852	14.5	40.2	47.2	17.0	36.1	2.76	96.9	69.8	20.5	45.2	
10204	915	16.6	46.3	50.6	18.1	35.9	2.98	96.7	80.1	15.8	61.7	
10205	947	16.3	44.8	47.3	17.2	36.4	3.15	115.3	122.4	33.0	83.8	
10206	940	15.6	42.6	45.3	16.6	36.6	1.86	98.2	94.4	17.5	71.0	
10207	956	15.4	42.0	43.9	16.1	36.7	2.82	101.5	105.4	22.8	77.2	
10208	928	16.2	45.8	49.4	17.5	35.4	2.94	108.6	104.4	18.2	79.0	
10209	996	17.1	47.3	47.5	17.2	36.2	2.46	116.2	130.7	17.2	104.5	
10210	916	16.5	46.6	50.9	18.0	35.4	2.38	111.2	74.5	14.2	55.1	
n	10	10	10	10	10	10	10	10	10	10	10	
Mean	917.5	15.84	43.88	47.86	17.27	36.13	2.621	105.74	94.38	18.28	70.73	
S.D.	46.5	0.83	2.56	2.19	0.62	0.45	0.400	7.27	20.78	6.26	16.58	

	Monocyte	Eosinophil	Basophil	PT	APTT
Animal No.	10 ² /μL	10 ² /μL	10 ² /μL	sec	sec
10201	3.8	0.9	0.0	16.9	14.3
10202	2.6	1.4	0.0	17.0	17.5
10203	3.1	1.0	0.0	15.8	17.1
10204	1.8	0.8	0.0	17.7	20.5
10205	3.3	2.2	0.1	16.0	16.8
10206	4.3	1.6	0.0	19.3	21.1
10207	3.5	1.9	0.0	18.5	19.7
10208	6.0	1.2	0.0	21.2	22.3
10209	6.7	2.2	0.1	17.6	16.7
10210	3.7	1.5	0.0	17.7	17.5
n	10	10	10	10	10
Mean	3.88	1.47	0.02	17.77	18.35
S.D.	1.48	0.51	0.04	1.60	2.45

Hematological findings											
Sex : Male											
Stage : Day 91											
Dose : 4-methylbenzaldehyde 300 mg/kg											
Species : Rat											
	RBC	HGB	HCT	MCV	MCH	MCHC	Reticulocyte	Platelet	WBC	Neutrophil	Lymphocyte
Animal No.	10 ⁴ /μL	g/dL	%	fL	pg	g/dL	%	10 ⁴ /μL	10 ² /μL	10 ² /μL	10 ² /μL
10301	787	14.6	40.3	51.2	18.6	36.2	2.98	113.1	76.3	7.3	66.3
10302	855	14.6	41.1	48.1	17.1	35.5	3.35	95.3	82.2	13.9	63.9
10303	859	15.1	42.2	49.1	17.6	35.8	2.89	109.7	73.1	11.3	57.9
10304	878	15.8	43.3	49.3	18.0	36.5	2.98	96.3	74.1	5.6	65.6
10305	852	16.1	45.9	53.9	18.9	35.1	3.45	100.8	84.3	12.3	67.3
10306	936	15.9	44.1	47.1	17.0	36.1	3.56	114.5	147.5	53.2	81.0
10307	926	16.7	46.5	50.2	18.0	35.9	2.90	107.6	88.5	17.5	64.9
10308	897	16.2	45.2	50.4	18.1	35.8	2.54	113.0	95.1	17.6	72.7
10309	923	16.6	46.3	50.2	18.0	35.9	2.92	116.0	83.3	14.0	64.6
10310	920	16.6	45.5	49.5	18.0	36.5	2.19	107.2	72.9	6.3	62.9
n	10	10	10	10	10	10	10	10	10	10	10
Mean	883.3	15.82	44.04	49.90	17.93	35.93	2.976	107.35	87.73	15.90	66.71
S.D.	46.4	0.80	2.23	1.84	0.59	0.43	0.412	7.50	22.21	13.79	6.23

	Monocyte	Eosinophil	Basophil	PT	APTT
Animal No.	10 ² /μL	10 ² /μL	10 ² /μL	sec	sec
10301	2.2	0.5	0.0	18.0	17.4
10302	4.0	0.3	0.1	14.8	15.4
10303	3.0	0.9	0.0	16.6	16.6
10304	2.5	0.4	0.0	15.5	18.1
10305	3.5	1.1	0.1	18.8	20.9
10306	10.5	2.8	0.0	16.7	14.1
10307	4.9	1.2	0.0	20.0	21.2
10308	4.1	0.7	0.0	16.0	16.3
10309	3.5	1.1	0.1	16.3	18.9
10310	3.0	0.7	0.0	19.9	20.8
n	10	10	10	10	10
Mean	4.12	0.97	0.03	17.26	17.97
S.D.	2.38	0.71	0.05	1.82	2.46

Hematological findings		Stage : Day 91							Species : Rat			
Sex : Male		Dose : 4-methylbenzaldehyde 1000 mg/kg										
	RBC	HGB	HCT	MCV	MCH	MCHC	Reticulocyte	Platelet	WBC	Neutrophil	Lymphocyte	
Animal No.	10 ⁴ /μL	g/dL	%	fL	pg	g/dL	%	10 ⁴ /μL	10 ² /μL	10 ² /μL	10 ² /μL	
10401	818	14.2	38.7	47.3	17.4	36.7	2.62	94.4	79.3	29.9	46.7	
10402	818	15.3	43.7	53.4	18.7	35.0	3.50	83.3	68.3	31.9	29.5	
10403	853	15.6	43.1	50.5	18.3	36.2	2.39	106.5	80.1	19.0	58.4	
10404	808	15.3	42.7	52.8	18.9	35.8	3.64	86.6	88.6	19.8	64.5	
10405	832	14.6	40.8	49.0	17.5	35.8	2.07	101.1	70.6	7.5	61.2	
10406	916	16.1	43.5	47.5	17.6	37.0	3.16	99.0	91.9	13.0	75.4	
10407	900	15.6	43.1	47.9	17.3	36.2	2.62	91.8	79.0	22.9	52.6	
10408	912	15.8	44.4	48.7	17.3	35.6	2.67	116.0	97.4	21.2	72.3	
10409	811	15.3	42.5	52.4	18.9	36.0	3.07	85.6	72.2	14.2	54.6	
10410	946	16.1	44.6	47.1	17.0	36.1	2.71	91.5	98.8	23.4	68.3	
n	10	10	10	10	10	10	10	10	10	10	10	
Mean	861.4	15.39	42.71	49.66	17.89	36.04	2.845	95.58	82.62	20.28	58.35	
S.D.	51.9	0.61	1.77	2.43	0.73	0.56	0.491	10.23	11.01	7.45	13.52	

	Monocyte	Eosinophil	Basophil	PT	APTT
Animal No.	10 ² /μL	10 ² /μL	10 ² /μL	sec	sec
10401	2.4	0.3	0.0	15.8	13.5
10402	6.2	0.7	0.0	16.7	14.4
10403	2.6	0.1	0.0	14.6	16.1
10404	3.9	0.4	0.0	15.9	14.3
10405	1.8	0.1	0.0	15.5	15.8
10406	3.4	0.1	0.0	15.7	17.3
10407	3.3	0.2	0.0	16.9	17.9
10408	3.5	0.3	0.1	16.4	15.2
10409	3.3	0.1	0.0	16.3	15.0
10410	6.9	0.2	0.0	15.3	16.3
n	10	10	10	10	10
Mean	3.73	0.25	0.01	15.91	15.58
S.D.	1.62	0.19	0.03	0.69	1.38

Hematological findings											
Sex : Female											
Stage : Day 91											
Dose : 4-methylbenzaldehyde 0 mg/kg											
Species : Rat											
	RBC	HGB	HCT	MCV	MCH	MCHC	Reticulocyte	Platelet	WBC	Neutrophil	Lymphocyte
Animal No.	10 ⁴ /μL	g/dL	%	fL	pg	g/dL	%	10 ⁴ /μL	10 ² /μL	10 ² /μL	10 ² /μL
50151	810	15.1	42.0	51.9	18.6	36.0	2.77	110.3	65.5	8.6	53.7
50152	746	14.2	39.1	52.4	19.0	36.3	2.11	81.7	55.9	7.5	45.6
50153	787	14.9	42.6	54.1	18.9	35.0	3.01	101.9	41.2	7.4	32.3
50154	782	15.1	42.1	53.8	19.3	35.9	3.01	109.1	30.1	3.7	24.8
50155	771	14.7	41.2	53.4	19.1	35.7	2.14	87.5	46.6	6.9	37.6
50156	853	16.1	45.8	53.7	18.9	35.2	2.53	110.2	38.5	7.4	28.9
50157	819	14.9	42.3	51.6	18.2	35.2	3.55	106.1	61.2	7.8	50.6
50158	838	16.1	45.1	53.8	19.2	35.7	2.33	116.3	77.4	7.3	67.1
50159	876	15.8	44.1	50.3	18.0	35.8	2.20	83.0	57.3	6.0	48.1
50160	797	15.0	41.5	52.1	18.8	36.1	2.34	107.0	63.9	8.8	51.1
n	10	10	10	10	10	10	10	10	10	10	10
Mean	807.9	15.19	42.58	52.71	18.80	35.69	2.599	101.31	53.76	7.14	43.98
S.D.	39.6	0.62	1.97	1.24	0.42	0.43	0.474	12.52	14.43	1.45	12.98

	Monocyte	Eosinophil	Basophil	PT	APTT
Animal No.	10 ² /μL	10 ² /μL	10 ² /μL	sec	sec
50151	2.2	1.0	0.0	15.6	13.2
50152	2.1	0.7	0.0	15.0	14.3
50153	0.9	0.6	0.0	16.9	13.1
50154	1.0	0.6	0.0	14.9	12.5
50155	1.6	0.5	0.0	15.6	12.4
50156	1.2	1.0	0.0	15.5	10.7
50157	1.8	1.0	0.0	16.1	10.5
50158	2.3	0.7	0.0	15.2	14.2
50159	2.4	0.8	0.0	16.7	13.9
50160	3.0	1.0	0.0	15.7	16.0
n	10	10	10	10	10
Mean	1.85	0.79	0.00	15.72	13.08
S.D.	0.68	0.20	0.00	0.67	1.67

Hematological findings											
Sex : Female											
Stage : Day 91											
Dose : 4-methylbenzaldehyde 100 mg/kg											
Species : Rat											
	RBC	HGB	HCT	MCV	MCH	MCHC	Reticulocyte	Platelet	WBC	Neutrophil	Lymphocyte
Animal No.	10 ⁴ /μL	g/dL	%	fL	pg	g/dL	%	10 ⁴ /μL	10 ² /μL	10 ² /μL	10 ² /μL
50251	825	15.4	42.7	51.8	18.7	36.1	2.52	115.5	38.2	4.9	32.1
50252	781	14.7	41.8	53.5	18.8	35.2	3.33	55.4	43.7	4.2	38.0
50253	771	13.7	38.8	50.3	17.8	35.3	2.46	104.9	39.3	4.5	33.0
50254	822	14.5	40.8	49.6	17.6	35.5	3.04	92.9	28.9	8.4	19.4
50255	842	14.9	42.0	49.9	17.7	35.5	2.75	82.3	36.1	4.9	29.3
50256	840	15.6	43.9	52.3	18.6	35.5	2.47	112.1	41.5	4.8	34.7
50257	863	15.6	43.1	49.9	18.1	36.2	2.26	104.7	56.4	5.6	48.2
50258	847	16.1	44.5	52.5	19.0	36.2	2.31	84.7	81.9	5.4	72.5
50259	849	15.7	43.6	51.4	18.5	36.0	2.44	118.0	99.6	14.7	81.0
50260	852	15.5	43.8	51.4	18.2	35.4	2.94	110.0	76.3	21.0	50.0
n	10	10	10	10	10	10	10	10	10	10	10
Mean	829.2	15.17	42.50	51.26	18.30	35.69	2.652	98.05	54.19	7.84	43.82
S.D.	30.6	0.71	1.72	1.31	0.49	0.39	0.351	19.45	23.66	5.60	19.55

	Monocyte	Eosinophil	Basophil	PT	APTT
Animal No.	10 ² /μL	10 ² /μL	10 ² /μL	sec	sec
50251	0.8	0.4	0.0	16.1	12.5
50252	0.8	0.7	0.0	16.1	10.0
50253	1.2	0.6	0.0	14.5	14.0
50254	0.8	0.3	0.0	15.7	11.5
50255	1.3	0.6	0.0	15.2	13.5
50256	1.2	0.8	0.0	15.1	12.7
50257	1.7	0.9	0.0	16.3	11.8
50258	3.2	0.8	0.0	15.6	12.7
50259	2.3	1.6	0.0	17.5	13.4
50260	4.4	0.9	0.0	16.3	13.2
n	10	10	10	10	10
Mean	1.77	0.76	0.00	15.84	12.53
S.D.	1.20	0.36	0.00	0.83	1.17

Hematological findings		Stage : Day 91							Species : Rat			
Sex : Female		Dose : 4-methylbenzaldehyde 300 mg/kg										
	RBC	HGB	HCT	MCV	MCH	MCHC	Reticulocyte	Platelet	WBC	Neutrophil	Lymphocyte	
Animal No.	10 ⁴ /μL	g/dL	%	fL	pg	g/dL	%	10 ⁴ /μL	10 ² /μL	10 ² /μL	10 ² /μL	
50351	765	14.2	39.5	51.6	18.6	35.9	2.56	90.3	48.8	10.1	35.9	
50352	787	15.2	42.8	54.4	19.3	35.5	3.30	89.0	44.1	10.7	31.1	
50353	808	15.2	42.8	53.0	18.8	35.5	2.40	85.7	43.5	10.2	30.8	
50354	738	13.4	37.4	50.7	18.2	35.8	2.38	96.0	31.3	9.1	19.9	
50355	802	15.1	42.7	53.2	18.8	35.4	2.96	86.8	69.7	7.8	59.1	
50356	779	14.0	40.4	51.9	18.0	34.7	2.51	109.4	73.3	6.6	63.9	
50357	837	16.1	45.3	54.1	19.2	35.5	3.11	114.4	69.5	10.6	55.7	
50358	MV	MV	MV	MV	MV	MV	MV	MV	MV	MV	MV	
50359	851	15.5	43.3	50.9	18.2	35.8	2.63	84.0	44.4	5.5	35.8	
50360	892	16.1	44.5	49.9	18.0	36.2	1.92	94.4	58.6	12.5	42.1	
n	9	9	9	9	9	9	9	9	9	9	9	
Mean	806.6	14.98	42.08	52.19	18.57	35.59	2.641	94.44	53.69	9.23	41.59	
S.D.	47.2	0.93	2.51	1.57	0.49	0.42	0.422	10.70	14.67	2.22	14.86	

	Monocyte	Eosinophil	Basophil	PT	APTT
Animal No.	10 ² /μL	10 ² /μL	10 ² /μL	sec	sec
50351	2.1	0.7	0.0	15.4	12.7
50352	2.1	0.2	0.0	15.8	10.7
50353	1.5	1.0	0.0	15.9	13.4
50354	1.5	0.8	0.0	15.4	14.8
50355	1.5	1.3	0.0	15.4	13.5
50356	1.6	1.2	0.0	15.9	13.3
50357	2.6	0.6	0.0	15.8	14.0
50358	MV	MV	MV	16.7	12.8
50359	2.8	0.3	0.0	15.9	13.4
50360	2.7	1.3	0.0	16.0	12.5
n	9	9	9	10	10
Mean	2.04	0.82	0.00	15.82	13.11
S.D.	0.55	0.41	0.00	0.39	1.08

MV : Missing Value

Hematological findings		Stage : Day 91							Species : Rat			
Sex : Female		Dose : 4-methylbenzaldehyde 1000 mg/kg										
	RBC	HGB	HCT	MCV	MCH	MCHC	Reticulocyte	Platelet	WBC	Neutrophil	Lymphocyte	
Animal No.	10 ⁴ /μL	g/dL	%	fL	pg	g/dL	%	10 ⁴ /μL	10 ² /μL	10 ² /μL	10 ² /μL	
50451	745	14.3	39.6	53.2	19.2	36.1	3.13	89.6	49.9	15.9	32.0	
50452	835	14.8	40.6	48.6	17.7	36.5	3.08	127.1	42.4	19.0	18.9	
50453	745	13.8	38.2	51.3	18.5	36.1	3.23	71.8	36.4	7.1	28.2	
50454	806	14.6	40.7	50.5	18.1	35.9	2.47	94.0	25.3	8.4	15.6	
50455	754	13.7	38.4	50.9	18.2	35.7	2.73	95.9	107.6	43.3	61.1	
50456	765	14.5	39.4	51.5	19.0	36.8	2.80	78.6	37.8	6.6	28.6	
50457	820	15.4	41.8	51.0	18.8	36.8	2.81	91.1	78.5	6.3	70.4	
50458	638	13.0	36.2	56.7	20.4	35.9	3.03	2.2	38.5	5.1	32.1	
50459	794	15.0	41.8	52.6	18.9	35.9	3.11	87.3	97.9	10.8	84.2	
50460	804	15.1	41.5	51.6	18.8	36.4	2.53	76.2	47.0	7.7	36.8	
n	10	10	10	10	10	10	10	10	10	10	10	
Mean	770.6	14.42	39.82	51.79	18.76	36.21	2.892	81.38	56.13	13.02	40.79	
S.D.	56.5	0.74	1.83	2.12	0.74	0.39	0.263	31.72	28.27	11.55	23.01	

	Monocyte	Eosinophil	Basophil	PT	APTT
Animal No.	10 ² /μL	10 ² /μL	10 ² /μL	sec	sec
50451	1.5	0.5	0.0	18.0	12.3
50452	3.9	0.6	0.0	14.4	10.6
50453	1.0	0.1	0.0	17.4	11.5
50454	0.8	0.5	0.0	14.7	11.9
50455	2.8	0.4	0.0	15.8	15.2
50456	2.2	0.4	0.0	15.6	13.1
50457	1.4	0.4	0.0	16.3	13.9
50458	1.1	0.2	0.0	16.9	13.6
50459	2.2	0.7	0.0	16.1	11.6
50460	2.0	0.5	0.0	14.3	11.4
n	10	10	10	10	10
Mean	1.89	0.43	0.00	15.95	12.51
S.D.	0.95	0.18	0.00	1.26	1.41

Biochemical findings		Stage : Day 91									
Sex : Male		Dose : 4-methylbenzaldehyde 0 mg/kg									
		Species : Rat									
	AST	ALT	ALP	γ -GTP	T-Bil	TBA	Glucose	T-Cho	TG	TP	UN
Animal No.	IU/L	IU/L	IU/L	IU/L	mg/dL	μ mol/L	mg/dL	mg/dL	mg/dL	g/dL	mg/dL
10101	70	38	314	0.6	0.05	7.2	196	67	54	5.3	9.6
10102	63	32	254	0.4	0.05	17.9	200	46	21	5.2	8.5
10103	56	25	469	0.3	0.05	23.0	156	47	39	6.1	10.2
10104	67	39	261	0.4	0.03	6.2	178	62	119	5.9	11.4
10105	65	24	221	0.5	0.04	4.5	160	59	46	5.3	10.3
10106	59	31	287	0.5	0.07	7.2	212	55	51	5.4	12.6
10107	61	26	259	0.4	0.07	14.0	207	86	132	5.8	11.3
10108	62	30	369	0.3	0.06	13.5	181	77	66	5.5	11.8
10109	47	24	210	0.4	0.07	8.2	210	78	59	5.8	10.9
10110	58	24	362	0.5	0.05	16.8	184	50	25	5.7	12.8
n	10	10	10	10	10	10	10	10	10	10	10
Mean	60.8	29.3	300.6	0.43	0.054	11.85	188.4	62.7	61.2	5.60	10.94
S.D.	6.4	5.7	79.7	0.09	0.013	6.10	20.0	14.0	36.8	0.30	1.33

	Crea	Na	K	Cl	Ca	IP	A/G	Albumin	α 1-G	α 2-G	β -G
Animal No.	mg/dL	mEq/L	mEq/L	mEq/L	mg/dL	mg/dL		%	%	%	%
10101	0.33	144	4.67	104	9.3	5.1	1.14	53.3	14.4	11.4	16.5
10102	0.37	145	4.38	106	9.3	5.2	1.00	50.0	16.9	11.2	15.6
10103	0.27	146	4.99	105	9.7	5.8	0.80	44.5	23.6	11.2	14.8
10104	0.26	145	5.16	103	9.6	6.8	0.94	48.5	23.4	10.7	14.1
10105	0.31	145	4.89	105	9.7	6.9	0.95	48.8	19.6	10.2	16.8
10106	0.35	142	4.58	103	9.7	5.9	0.93	48.1	19.7	8.4	17.9
10107	0.26	144	4.84	103	10.9	5.9	0.85	45.9	23.9	9.3	16.6
10108	0.28	145	4.56	103	10.4	6.4	0.94	48.4	22.0	11.3	15.6
10109	0.25	144	5.11	104	9.7	5.9	0.93	48.3	23.0	10.0	14.6
10110	0.32	145	4.70	105	9.7	5.9	0.91	47.6	21.6	9.4	13.5
n	10	10	10	10	10	10	10	10	10	10	10
Mean	0.300	144.5	4.788	104.1	9.80	5.98	0.939	48.34	20.81	10.31	15.60
S.D.	0.042	1.1	0.254	1.1	0.49	0.59	0.090	2.33	3.16	1.03	1.37

γ -G	
Animal No.	%
10101	4.4
10102	6.3
10103	5.9
10104	3.3
10105	4.6
10106	5.9
10107	4.3
10108	2.7
10109	4.1
10110	7.9
n	10
Mean	4.94
S.D.	1.55

Animal No.	Biochemical findings										
	Sex : Male										
	AST	ALT	ALP	γ -GTP	T-Bil	TBA	Glucose	T-Cho	TG	TP	UN
	IU/L	IU/L	IU/L	IU/L	mg/dL	μ mol/L	mg/dL	mg/dL	mg/dL	g/dL	mg/dL
10201	67	29	210	0.2	0.05	16.3	173	59	18	5.5	11.8
10202	72	28	286	0.5	0.05	11.9	173	60	44	5.4	11.8
10203	60	25	246	0.5	0.05	8.1	164	59	31	6.0	8.0
10204	59	27	348	0.1	0.06	19.2	174	44	53	5.6	11.2
10205	50	26	258	0.3	0.06	5.9	173	56	42	5.8	8.9
10206	59	32	236	0.3	0.04	6.9	212	63	64	5.6	10.6
10207	93	34	256	0.4	0.04	20.8	198	72	50	5.8	12.5
10208	55	26	357	0.5	0.06	38.8	196	55	57	5.7	10.7
10209	80	26	314	0.5	0.08	49.5	156	65	63	5.9	13.4
10210	95	31	218	0.5	0.08	32.7	176	77	29	5.5	10.2
n	10	10	10	10	10	10	10	10	10	10	10
Mean	69.0	28.4	272.9	0.38	0.057	21.01	179.5	61.0	45.1	5.68	10.91
S.D.	15.7	3.0	51.8	0.15	0.014	14.79	17.1	9.2	15.3	0.19	1.62

Animal No.	Crea	Na	K	Cl	Ca	IP	A/G	Albumin	α 1-G	α 2-G	β -G
	mg/dL	mEq/L	mEq/L	mEq/L	mg/dL	mg/dL		%	%	%	%
	10201	0.38	144	4.59	104	9.2	5.2	0.87	46.6	21.8	10.5	14.2
10202	0.34	145	4.65	105	9.8	5.5	1.00	50.0	21.0	10.2	14.4
10203	0.28	143	5.32	102	10.0	5.9	1.00	50.1	20.3	9.7	16.1
10204	0.25	146	4.41	104	9.7	6.6	0.90	47.4	25.4	10.1	13.5
10205	0.24	144	5.00	103	10.4	7.5	0.88	46.9	22.4	10.6	14.1
10206	0.28	144	4.62	104	9.7	5.8	0.87	46.5	23.1	8.5	15.9
10207	0.31	144	4.89	104	9.9	6.3	0.79	44.1	24.3	9.3	16.4
10208	0.25	145	4.67	104	10.3	6.3	1.00	49.9	21.0	10.5	14.2
10209	0.31	146	4.68	104	10.1	6.7	0.86	46.1	22.4	11.0	16.5
10210	0.29	145	4.99	105	9.6	6.5	0.85	45.8	22.1	11.4	15.8
n	10	10	10	10	10	10	10	10	10	10	10
Mean	0.293	144.6	4.782	103.9	9.87	6.23	0.902	47.34	22.38	10.18	15.11
S.D.	0.044	1.0	0.265	0.9	0.35	0.66	0.073	2.03	1.56	0.84	1.13

Animal No.	γ -G
	%
10201	6.9
10202	4.4
10203	3.8
10204	3.6
10205	6.0
10206	6.0
10207	5.9
10208	4.4
10209	4.0
10210	4.9
n	10
Mean	4.99
S.D.	1.13

Biochemical findings		Stage : Day 91									
Sex : Male		Dose : 4-methylbenzaldehyde 300 mg/kg									
		Species : Rat									
	AST	ALT	ALP	γ -GTP	T-Bil	TBA	Glucose	T-Cho	TG	TP	UN
Animal No.	IU/L	IU/L	IU/L	IU/L	mg/dL	μ mol/L	mg/dL	mg/dL	mg/dL	g/dL	mg/dL
10301	58	27	350	0.2	0.06	8.5	182	50	17	5.3	11.0
10302	61	27	242	0.5	0.07	8.6	186	62	43	5.4	9.6
10303	100	37	343	0.5	0.06	22.7	158	70	36	5.7	9.4
10304	89	30	254	0.3	0.06	16.3	171	86	35	5.3	9.8
10305	60	34	417	0.4	0.04	14.0	160	68	69	6.2	10.2
10306	65	31	292	0.3	0.06	5.1	202	90	125	5.6	12.1
10307	60	27	245	0.5	0.04	17.3	196	51	94	5.7	13.2
10308	68	27	238	0.3	0.04	20.0	150	130	86	6.2	12.0
10309	98	33	337	0.3	0.06	47.3	162	82	40	5.7	9.9
10310	48	23	267	0.4	0.04	5.6	190	74	69	5.5	10.5
n	10	10	10	10	10	10	10	10	10	10	10
Mean	70.7	29.6	298.5	0.37	0.053	16.54	175.7	76.3	61.4	5.66	10.77
S.D.	18.2	4.2	60.4	0.11	0.012	12.39	17.9	23.2	33.2	0.32	1.27

	Crea	Na	K	Cl	Ca	IP	A/G	Albumin	α 1-G	α 2-G	β -G
Animal No.	mg/dL	mEq/L	mEq/L	mEq/L	mg/dL	mg/dL		%	%	%	%
10301	0.38	143	4.56	104	9.1	5.5	0.90	47.5	22.0	9.9	14.8
10302	0.35	144	4.58	105	9.7	5.3	1.00	50.0	18.6	11.6	14.3
10303	0.35	146	4.95	106	9.8	6.4	1.00	49.9	19.4	10.4	15.1
10304	0.26	144	4.59	104	9.3	6.3	1.02	50.6	19.4	10.4	15.6
10305	0.29	145	5.02	104	10.6	6.0	0.90	47.3	24.3	8.1	15.7
10306	0.28	145	4.95	104	9.9	5.7	0.95	48.8	22.1	10.2	15.9
10307	0.31	144	4.97	105	9.6	5.8	0.88	46.7	23.0	9.6	15.3
10308	0.26	145	4.88	103	10.4	6.6	0.87	46.5	24.3	10.0	14.5
10309	0.28	145	5.10	104	9.5	6.7	0.91	47.6	17.9	11.1	16.9
10310	0.26	145	5.25	105	9.8	6.0	0.86	46.3	24.5	9.8	14.4
n	10	10	10	10	10	10	10	10	10	10	10
Mean	0.302	144.6	4.885	104.4	9.77	6.03	0.929	48.12	21.55	10.11	15.25
S.D.	0.044	0.8	0.235	0.8	0.46	0.47	0.059	1.58	2.53	0.93	0.81

γ -G	
Animal No.	%
10301	5.8
10302	5.5
10303	5.2
10304	4.0
10305	4.6
10306	3.0
10307	5.4
10308	4.7
10309	6.5
10310	5.0
n	10
Mean	4.97
S.D.	0.98

Animal No.	Biochemical findings										
	AST	ALT	ALP	γ -GTP	T-Bil	TBA	Glucose	T-Cho	TG	TP	UN
	IU/L	IU/L	IU/L	IU/L	mg/dL	μ mol/L	mg/dL	mg/dL	mg/dL	g/dL	mg/dL
10401	83	32	380	0.6	0.08	23.3	160	67	20	5.7	8.9
10402	125	31	376	0.5	0.05	5.1	180	60	53	5.8	9.1
10403	93	39	408	0.4	0.05	20.3	144	74	36	5.7	11.6
10404	85	35	495	0.5	0.07	14.4	175	61	81	5.7	7.7
10405	72	25	370	0.3	0.07	41.0	165	66	23	5.5	9.5
10406	128	40	657	0.3	0.08	87.3	165	74	76	5.5	13.2
10407	88	23	379	0.3	0.05	3.2	165	64	79	5.4	9.1
10408	96	28	327	0.0	0.05	5.8	189	52	94	5.3	11.5
10409	80	31	397	0.4	0.06	27.3	157	72	45	5.8	10.5
10410	85	32	346	0.2	0.05	4.9	185	59	80	5.5	12.0
n	10	10	10	10	10	10	10	10	10	10	10
Mean	93.5	31.6	413.5	0.35	0.061	23.26	168.5	64.9	58.7	5.59	10.31
S.D.	18.6	5.5	96.5	0.17	0.013	25.59	13.8	7.2	26.7	0.17	1.72

Animal No.	Crea	Na	K	Cl	Ca	IP	A/G	Albumin	α 1-G	α 2-G	β -G
	mg/dL	mEq/L	mEq/L	mEq/L	mg/dL	mg/dL		%	%	%	%
10401	0.36	143	4.56	104	9.7	4.9	0.95	48.8	17.5	10.5	16.3
10402	0.26	145	4.65	103	9.7	5.3	0.90	47.5	22.3	9.0	15.3
10403	0.30	145	4.55	104	9.7	5.7	0.93	48.2	19.5	10.7	15.3
10404	0.26	144	4.68	103	10.0	7.1	1.00	50.0	18.0	9.6	16.5
10405	0.26	146	4.68	103	10.3	6.8	1.04	50.9	21.5	7.0	14.8
10406	0.27	143	4.69	102	9.3	6.5	0.96	49.1	18.3	9.4	15.8
10407	0.30	145	4.28	102	9.3	6.3	1.10	52.3	18.2	9.6	15.7
10408	0.22	146	4.72	104	9.9	6.2	1.03	50.8	16.7	11.3	16.1
10409	0.29	145	4.49	103	10.0	6.5	0.91	47.7	19.1	10.3	17.1
10410	0.21	146	4.85	103	10.5	6.4	1.01	50.2	18.9	9.3	14.7
n	10	10	10	10	10	10	10	10	10	10	10
Mean	0.273	144.8	4.615	103.1	9.84	6.17	0.983	49.55	19.00	9.67	15.76
S.D.	0.043	1.1	0.155	0.7	0.39	0.68	0.064	1.56	1.73	1.18	0.76

Animal No.	γ -G
	%
10401	6.9
10402	5.9
10403	6.3
10404	5.9
10405	5.8
10406	7.4
10407	4.2
10408	5.1
10409	5.8
10410	6.9
n	10
Mean	6.02
S.D.	0.93

Animal No.	Biochemical findings										
	AST	ALT	ALP	γ -GTP	T-Bil	TBA	Glucose	T-Cho	TG	TP	UN
	IU/L	IU/L	IU/L	IU/L	mg/dL	μ mol/L	mg/dL	mg/dL	mg/dL	g/dL	mg/dL
50151	64	25	87	0.3	0.08	17.3	153	71	27	6.4	12.1
50152	51	22	148	0.3	0.10	16.5	163	83	22	6.7	12.6
50153	46	21	114	0.5	0.06	10.7	174	71	24	6.4	13.8
50154	51	24	126	0.9	0.06	6.4	188	60	19	6.2	18.7
50155	48	22	84	0.1	0.07	13.3	154	56	16	6.5	12.1
50156	58	23	123	0.4	0.08	10.7	121	58	15	6.1	14.7
50157	46	22	128	0.3	0.09	43.5	185	84	18	6.3	13.0
50158	40	20	111	0.2	0.06	4.5	148	86	53	6.1	10.1
50159	55	18	123	0.2	0.09	28.8	188	56	27	6.0	11.7
50160	109	95	84	0.5	0.10	26.9	183	67	13	6.0	13.6
n	10	10	10	10	10	10	10	10	10	10	10
Mean	56.8	29.2	112.8	0.37	0.079	17.86	165.7	69.2	23.4	6.27	13.24
S.D.	19.6	23.2	21.6	0.23	0.016	11.99	22.0	11.8	11.5	0.23	2.30

Animal No.	Crea	Na	K	Cl	Ca	IP	A/G	Albumin	α 1-G	α 2-G	β -G
	mg/dL	mEq/L	mEq/L	mEq/L	mg/dL	mg/dL		%	%	%	%
50151	0.40	146	4.14	107	10.2	3.6	1.24	55.3	16.3	8.1	12.6
50152	0.37	142	4.04	104	10.4	4.0	1.40	58.4	16.9	8.1	10.8
50153	0.35	144	4.24	106	10.1	4.8	1.20	54.6	17.6	8.7	12.7
50154	0.44	144	4.19	105	10.0	6.0	1.30	56.5	17.4	8.2	13.2
50155	0.33	145	4.12	106	10.6	5.3	1.25	55.6	18.0	8.1	12.5
50156	0.37	146	3.94	107	9.9	5.0	1.17	54.0	16.2	8.0	15.5
50157	0.29	144	4.34	104	10.8	6.4	1.16	53.7	18.5	8.1	12.8
50158	0.33	144	4.48	104	10.4	5.7	1.22	55.0	17.5	9.0	11.9
50159	0.28	144	4.16	105	10.1	5.4	1.25	55.5	15.1	9.0	12.3
50160	0.32	142	3.95	104	10.0	5.8	1.14	53.3	18.9	9.5	12.3
n	10	10	10	10	10	10	10	10	10	10	10
Mean	0.348	144.1	4.160	105.2	10.25	5.20	1.233	55.19	17.24	8.48	12.66
S.D.	0.049	1.4	0.167	1.2	0.29	0.88	0.076	1.49	1.15	0.53	1.19

Animal No.	γ -G
	%
50151	7.7
50152	5.8
50153	6.4
50154	4.7
50155	5.8
50156	6.3
50157	6.9
50158	6.6
50159	8.1
50160	6.0
n	10
Mean	6.43
S.D.	0.98

Animal No.	Biochemical findings										
	AST	ALT	ALP	γ -GTP	T-Bil	TBA	Glucose	T-Cho	TG	TP	UN
	IU/L	IU/L	IU/L	IU/L	mg/dL	μ mol/L	mg/dL	mg/dL	mg/dL	g/dL	mg/dL
50251	52	18	208	0.3	0.09	11.2	148	98	32	6.3	11.4
50252	51	26	158	0.7	0.07	14.8	198	76	28	6.3	13.7
50253	67	42	109	0.3	0.08	14.5	167	77	22	6.5	10.4
50254	61	30	171	0.9	0.08	29.3	194	76	25	6.5	9.9
50255	58	19	121	0.3	0.06	6.5	192	81	22	6.1	11.5
50256	57	22	139	0.8	0.07	5.6	167	53	18	5.8	10.1
50257	53	19	133	0.1	0.09	15.7	185	72	40	5.8	11.2
50258	59	23	105	0.7	0.08	15.2	180	78	22	6.0	12.5
50259	49	28	155	0.8	0.06	21.7	160	69	25	6.1	14.3
50260	77	44	142	0.8	0.08	37.4	181	75	59	6.2	9.7
n	10	10	10	10	10	10	10	10	10	10	10
Mean	58.4	27.1	144.1	0.57	0.076	17.19	177.2	75.5	29.3	6.16	11.47
S.D.	8.4	9.3	30.9	0.29	0.011	9.88	16.2	11.1	12.2	0.25	1.59

Animal No.	Crea	Na	K	Cl	Ca	IP	A/G	Albumin	α 1-G	α 2-G	β -G
	mg/dL	mEq/L	mEq/L	mEq/L	mg/dL	mg/dL		%	%	%	%
50251	0.37	144	3.90	105	10.0	3.3	1.35	57.5	16.4	7.7	12.4
50252	0.40	144	4.33	106	9.9	4.1	1.19	54.3	17.7	8.2	13.6
50253	0.42	142	4.38	104	10.3	3.9	1.26	55.7	15.4	9.1	12.8
50254	0.30	143	4.01	105	9.9	3.9	1.29	56.4	15.7	8.8	13.0
50255	0.35	145	3.66	105	10.1	6.9	1.10	52.4	16.4	9.6	15.1
50256	0.37	145	4.31	107	9.6	6.5	1.07	51.7	18.8	8.5	13.3
50257	0.33	142	3.94	103	10.2	6.3	1.33	57.1	15.7	8.1	13.8
50258	0.37	142	4.08	104	10.0	5.9	1.10	52.4	17.3	9.1	14.0
50259	0.29	144	4.34	103	10.2	6.2	1.01	50.3	17.2	8.8	14.4
50260	0.26	143	4.68	104	10.5	5.0	1.07	51.8	18.6	7.8	15.8
n	10	10	10	10	10	10	10	10	10	10	10
Mean	0.346	143.4	4.163	104.6	10.07	5.20	1.177	53.96	16.92	8.57	13.82
S.D.	0.051	1.2	0.298	1.3	0.25	1.31	0.123	2.57	1.20	0.62	1.05

Animal No.	γ -G
	%
50251	6.0
50252	6.2
50253	7.0
50254	6.1
50255	6.5
50256	7.7
50257	5.3
50258	7.2
50259	9.3
50260	6.0
n	10
Mean	6.73
S.D.	1.14

Animal No.	Biochemical findings										
	Sex : Female										
	Stage : Day 91 Dose : 4-methylbenzaldehyde 300 mg/kg Species : Rat										
	AST	ALT	ALP	γ -GTP	T-Bil	TBA	Glucose	T-Cho	TG	TP	UN
	IU/L	IU/L	IU/L	IU/L	mg/dL	μ mol/L	mg/dL	mg/dL	mg/dL	g/dL	mg/dL
50351	354	148	130	2.2	0.09	72.3	188	77	31	5.8	11.8
50352	49	23	229	0.5	0.09	14.8	168	63	61	5.9	10.4
50353	69	22	200	0.6	0.08	13.4	142	49	7	5.5	11.2
50354	43	27	91	0.4	0.07	9.7	208	73	19	6.7	12.7
50355	48	19	147	1.0	0.09	35.6	167	62	18	5.7	10.0
50356	47	14	116	0.5	0.09	15.7	166	76	42	6.1	12.6
50357	56	25	79	0.3	0.09	10.0	184	69	44	6.5	13.9
50358	56	30	113	0.2	0.07	5.7	200	87	47	5.9	9.9
50359	189	85	99	0.3	0.09	43.6	175	101	31	6.2	14.3
50360	59	24	202	0.7	0.06	20.3	155	59	28	5.6	14.0
n	10	10	10	10	10	10	10	10	10	10	10
Mean	97.0	41.7	140.6	0.67	0.082	24.11	175.3	71.6	32.8	5.99	12.08
S.D.	100.1	42.3	52.3	0.59	0.011	20.73	20.1	14.9	16.0	0.39	1.68

Animal No.	Crea	Na	K	Cl	Ca	IP	A/G	Albumin	α 1-G	α 2-G	β -G
	mg/dL	mEq/L	mEq/L	mEq/L	mg/dL	mg/dL		%	%	%	%
50351	0.48	142	4.27	104	9.4	3.6	1.08	52.0	16.7	9.7	13.8
50352	0.37	144	4.39	106	9.8	4.9	1.23	55.1	17.3	8.5	13.5
50353	0.38	145	4.11	107	9.3	4.9	1.12	52.8	13.7	10.6	15.0
50354	0.34	142	4.41	104	10.7	5.8	1.30	56.5	17.3	8.0	12.8
50355	0.33	143	4.09	104	9.8	5.8	1.27	56.0	15.3	8.1	13.8
50356	0.39	144	4.52	105	10.0	5.2	1.17	53.9	16.4	8.4	14.2
50357	0.34	142	4.16	103	10.4	5.8	1.34	57.3	19.0	7.5	11.8
50358	0.31	143	4.50	103	10.4	5.2	1.00	50.0	19.0	9.4	16.0
50359	0.32	144	4.39	105	10.0	5.3	1.15	53.4	14.1	8.7	15.8
50360	0.36	145	4.00	105	10.2	5.9	1.28	56.2	14.8	8.5	14.6
n	10	10	10	10	10	10	10	10	10	10	10
Mean	0.362	143.4	4.284	104.6	10.00	5.24	1.194	54.32	16.36	8.74	14.13
S.D.	0.049	1.2	0.184	1.3	0.44	0.69	0.108	2.31	1.87	0.92	1.29

Animal No.	γ -G
	%
50351	7.8
50352	5.6
50353	7.9
50354	5.4
50355	6.8
50356	7.1
50357	4.4
50358	5.6
50359	8.0
50360	5.9
n	10
Mean	6.45
S.D.	1.24

Animal No.	Biochemical findings										
	Sex : Female										
	Stage : Day 91 Dose : 4-methylbenzaldehyde 1000 mg/kg Species : Rat										
	AST	ALT	ALP	γ -GTP	T-Bil	TBA	Glucose	T-Cho	TG	TP	UN
	IU/L	IU/L	IU/L	IU/L	mg/dL	μ mol/L	mg/dL	mg/dL	mg/dL	g/dL	mg/dL
50451	53	29	312	1.2	0.04	6.5	161	63	23	5.6	11.1
50452	81	33	253	1.1	0.04	11.2	163	63	28	5.5	14.9
50453	74	28	211	1.6	0.05	5.2	196	72	12	5.8	11.7
50454	116	30	201	0.4	0.05	5.1	190	74	31	6.0	8.5
50455	69	31	163	0.1	0.07	26.2	148	105	26	6.2	11.3
50456	74	24	157	0.7	0.08	39.7	178	72	25	5.5	7.2
50457	62	17	156	0.5	0.05	4.0	157	62	41	5.9	13.1
50458	61	28	289	0.0	0.05	13.2	175	80	14	5.3	12.2
50459	56	28	216	1.0	0.06	5.2	171	74	21	5.4	13.3
50460	80	37	192	0.7	0.06	5.7	145	78	27	5.4	11.1
n	10	10	10	10	10	10	10	10	10	10	10
Mean	72.6	28.5	215.0	0.73	0.055	12.20	168.4	74.3	24.8	5.66	11.44
S.D.	18.1	5.3	54.4	0.50	0.013	11.76	16.8	12.5	8.3	0.30	2.25

Animal No.	Crea	Na	K	Cl	Ca	IP	A/G	Albumin	α 1-G	α 2-G	β -G
	mg/dL	mEq/L	mEq/L	mEq/L	mg/dL	mg/dL		%	%	%	%
50451	0.34	141	4.23	104	9.3	3.1	1.18	54.1	16.0	8.3	13.9
50452	0.38	138	4.31	102	9.6	5.1	1.06	51.4	16.2	8.4	14.7
50453	0.43	144	3.64	104	9.5	5.5	1.25	55.5	17.0	7.9	13.7
50454	0.29	143	3.57	100	9.7	6.2	1.14	53.2	17.0	9.5	14.2
50455	0.31	142	3.35	100	10.3	5.7	1.09	52.2	18.7	8.6	14.9
50456	0.31	143	3.52	104	9.5	5.8	1.35	57.4	16.1	8.6	13.4
50457	0.23	145	3.71	104	9.6	5.8	1.14	53.2	16.5	8.3	15.3
50458	0.37	143	3.48	106	9.8	5.4	1.05	51.3	14.5	10.8	14.3
50459	0.36	144	4.43	106	10.0	5.8	1.15	53.5	12.5	10.1	15.2
50460	0.38	143	4.15	103	10.2	6.6	1.26	55.7	16.3	8.5	13.0
n	10	10	10	10	10	10	10	10	10	10	10
Mean	0.340	142.6	3.839	103.3	9.75	5.50	1.167	53.75	16.08	8.90	14.26
S.D.	0.057	2.0	0.397	2.1	0.32	0.94	0.095	1.97	1.64	0.93	0.77

Animal No.	γ -G
	%
50451	7.7
50452	9.3
50453	5.9
50454	6.1
50455	5.6
50456	4.5
50457	6.7
50458	9.1
50459	8.7
50460	6.5
n	10
Mean	7.01
S.D.	1.62

Necropsy findings			Stage : Day 91	Species : Rat
Sex : Male				
Test article : 4-methylbenzaldehyde	Dose : 0 mg/kg	Animal No. : 10101		
Finding absent : Epididymis, Other organs & tissues				
Test article : 4-methylbenzaldehyde	Dose : 0 mg/kg	Animal No. : 10102		
Finding absent : Epididymis, Other organs & tissues				
Test article : 4-methylbenzaldehyde	Dose : 0 mg/kg	Animal No. : 10103		
Finding absent : Epididymis, Other organs & tissues				
Test article : 4-methylbenzaldehyde	Dose : 0 mg/kg	Animal No. : 10104		
Finding absent : Epididymis, Other organs & tissues				
Test article : 4-methylbenzaldehyde	Dose : 0 mg/kg	Animal No. : 10105		
Finding absent : Epididymis, Other organs & tissues				
Test article : 4-methylbenzaldehyde	Dose : 0 mg/kg	Animal No. : 10106		
Finding absent : Epididymis, Other organs & tissues				
Test article : 4-methylbenzaldehyde	Dose : 0 mg/kg	Animal No. : 10107		
Finding absent : Epididymis, Other organs & tissues				
Test article : 4-methylbenzaldehyde	Dose : 0 mg/kg	Animal No. : 10108		
Finding absent : Epididymis, Other organs & tissues				
Test article : 4-methylbenzaldehyde	Dose : 0 mg/kg	Animal No. : 10109		
Finding absent : Epididymis, Other organs & tissues				
Test article : 4-methylbenzaldehyde	Dose : 0 mg/kg	Animal No. : 10110		
Finding absent : Epididymis, Other organs & tissues				

Necropsy findings		Stage : Day 91	Species : Rat
Sex : Male			
Test article : 4-methylbenzaldehyde	Dose : 100 mg/kg	Animal No. : 10201	
Finding absent : Epididymis, Other organs & tissues			
Test article : 4-methylbenzaldehyde	Dose : 100 mg/kg	Animal No. : 10202	
Finding absent : Epididymis, Other organs & tissues			
Test article : 4-methylbenzaldehyde	Dose : 100 mg/kg	Animal No. : 10203	
Epididymis			
Findings : Finding present			
Yellowish white focus, cauda, unilateral			
Non-graded change			
Finding Comment : left, 7 x 4 x 2, mm			
Finding absent : Other organs & tissues			
Test article : 4-methylbenzaldehyde	Dose : 100 mg/kg	Animal No. : 10204	
Finding absent : Epididymis, Other organs & tissues			
Test article : 4-methylbenzaldehyde	Dose : 100 mg/kg	Animal No. : 10205	
Finding absent : Epididymis, Other organs & tissues			
Test article : 4-methylbenzaldehyde	Dose : 100 mg/kg	Animal No. : 10206	
Finding absent : Epididymis, Other organs & tissues			
Test article : 4-methylbenzaldehyde	Dose : 100 mg/kg	Animal No. : 10207	
Finding absent : Epididymis, Other organs & tissues			
Test article : 4-methylbenzaldehyde	Dose : 100 mg/kg	Animal No. : 10208	
Finding absent : Epididymis, Other organs & tissues			
Test article : 4-methylbenzaldehyde	Dose : 100 mg/kg	Animal No. : 10209	
Finding absent : Epididymis, Other organs & tissues			
Test article : 4-methylbenzaldehyde	Dose : 100 mg/kg	Animal No. : 10210	
Finding absent : Epididymis, Other organs & tissues			

Necropsy findings			Stage : Day 91	Species : Rat
Sex : Male				
Test article : 4-methylbenzaldehyde	Dose : 300 mg/kg	Animal No. : 10301		
Finding absent : Epididymis, Other organs & tissues				
Test article : 4-methylbenzaldehyde	Dose : 300 mg/kg	Animal No. : 10302		
Finding absent : Epididymis, Other organs & tissues				
Test article : 4-methylbenzaldehyde	Dose : 300 mg/kg	Animal No. : 10303		
Finding absent : Epididymis, Other organs & tissues				
Test article : 4-methylbenzaldehyde	Dose : 300 mg/kg	Animal No. : 10304		
Finding absent : Epididymis, Other organs & tissues				
Test article : 4-methylbenzaldehyde	Dose : 300 mg/kg	Animal No. : 10305		
Finding absent : Epididymis, Other organs & tissues				
Test article : 4-methylbenzaldehyde	Dose : 300 mg/kg	Animal No. : 10306		
Finding absent : Epididymis, Other organs & tissues				
Test article : 4-methylbenzaldehyde	Dose : 300 mg/kg	Animal No. : 10307		
Finding absent : Epididymis, Other organs & tissues				
Test article : 4-methylbenzaldehyde	Dose : 300 mg/kg	Animal No. : 10308		
Finding absent : Epididymis, Other organs & tissues				
Test article : 4-methylbenzaldehyde	Dose : 300 mg/kg	Animal No. : 10309		
Finding absent : Epididymis, Other organs & tissues				
Test article : 4-methylbenzaldehyde	Dose : 300 mg/kg	Animal No. : 10310		
Finding absent : Epididymis, Other organs & tissues				

Necropsy findings		Stage : Day 91	Species : Rat
Sex : Male			
Test article : 4-methylbenzaldehyde	Dose : 1000 mg/kg	Animal No. : 10401	
Epididymis			
Findings : Finding present			
Yellowish white focus, cauda, bilateral			
Non-graded change			
Finding Comment : right, 18 x 12 x 11, mm, left, 12 x 10 x 8, mm			
Finding absent : Other organs & tissues			
Test article : 4-methylbenzaldehyde	Dose : 1000 mg/kg	Animal No. : 10402	
Epididymis			
Findings : Finding present			
Yellowish white focus, cauda, bilateral			
Non-graded change			
Finding Comment : right, 10 x 6 x 4, mm, left, 9 x 7 x 5, mm			
Finding absent : Other organs & tissues			
Test article : 4-methylbenzaldehyde	Dose : 1000 mg/kg	Animal No. : 10403	
Epididymis			
Findings : Finding present			
Yellowish white focus, cauda, bilateral			
Non-graded change			
Finding Comment : right, 8 x 8 x 8, mm, left, 7 x 5 x 7, mm			
Finding absent : Other organs & tissues			
Test article : 4-methylbenzaldehyde	Dose : 1000 mg/kg	Animal No. : 10404	
Finding absent : Epididymis, Other organs & tissues			
Test article : 4-methylbenzaldehyde	Dose : 1000 mg/kg	Animal No. : 10405	
Epididymis			
Findings : Finding present			
Yellowish white focus, cauda, unilateral			
Non-graded change			
Finding Comment : left, 8 x 12 x 8, mm			
Finding absent : Other organs & tissues			
Test article : 4-methylbenzaldehyde	Dose : 1000 mg/kg	Animal No. : 10406	
Finding absent : Epididymis, Other organs & tissues			
Test article : 4-methylbenzaldehyde	Dose : 1000 mg/kg	Animal No. : 10407	
Epididymis			
Findings : Finding present			
Yellowish white focus, cauda, unilateral			
Non-graded change			
Finding Comment : left, 6 x 4 x 6, mm			
Finding absent : Other organs & tissues			

Necropsy findings

Sex : Male

Stage : Day 91

Species : Rat

Test article : 4-methylbenzaldehyde Dose : 1000 mg/kg Animal No. : 10408

Epididymis

Findings : Finding present

Yellowish white focus, cauda, bilateral

Non-graded change

Finding Comment : right, 5 x 5 x 5, mm, left, 15 x 10 x 8, mm

Finding absent : Other organs & tissues

Test article : 4-methylbenzaldehyde Dose : 1000 mg/kg Animal No. : 10409

Epididymis

Findings : Finding present

Yellowish white focus, cauda, bilateral

Non-graded change

Finding Comment : right, 18 x 9 x 7, mm, left, 10 x 8 x 8, mm

Finding absent : Other organs & tissues

Test article : 4-methylbenzaldehyde Dose : 1000 mg/kg Animal No. : 10410

Finding absent : Epididymis, Other organs & tissues

Necropsy findings		Stage : Day 91	Species : Rat
Sex : Female			
Test article : 4-methylbenzaldehyde	Dose : 0 mg/kg	Animal No. : 50151	
Finding absent :	Lung, Submandibular lymph node, Mesenteric lymph node, Other organs & tissues		
Test article : 4-methylbenzaldehyde	Dose : 0 mg/kg	Animal No. : 50152	
Finding absent :	Lung, Submandibular lymph node, Mesenteric lymph node, Other organs & tissues		
Test article : 4-methylbenzaldehyde	Dose : 0 mg/kg	Animal No. : 50153	
Finding absent :	Lung, Submandibular lymph node, Mesenteric lymph node, Other organs & tissues		
Test article : 4-methylbenzaldehyde	Dose : 0 mg/kg	Animal No. : 50154	
Finding absent :	Lung, Submandibular lymph node, Mesenteric lymph node, Other organs & tissues		
Test article : 4-methylbenzaldehyde	Dose : 0 mg/kg	Animal No. : 50155	
Finding absent :	Lung, Submandibular lymph node, Mesenteric lymph node, Other organs & tissues		
Test article : 4-methylbenzaldehyde	Dose : 0 mg/kg	Animal No. : 50156	
Finding absent :	Lung, Submandibular lymph node, Mesenteric lymph node, Other organs & tissues		
Test article : 4-methylbenzaldehyde	Dose : 0 mg/kg	Animal No. : 50157	
Finding absent :	Lung, Submandibular lymph node, Mesenteric lymph node, Other organs & tissues		
Test article : 4-methylbenzaldehyde	Dose : 0 mg/kg	Animal No. : 50158	
Finding absent :	Lung, Submandibular lymph node, Mesenteric lymph node, Other organs & tissues		
Test article : 4-methylbenzaldehyde	Dose : 0 mg/kg	Animal No. : 50159	
Finding absent :	Lung, Submandibular lymph node, Mesenteric lymph node, Other organs & tissues		
Test article : 4-methylbenzaldehyde	Dose : 0 mg/kg	Animal No. : 50160	
Finding absent :	Lung, Submandibular lymph node, Mesenteric lymph node, Other organs & tissues		

Necropsy findings		Stage : Day 91	Species : Rat
Sex : Female			
Test article : 4-methylbenzaldehyde	Dose : 100 mg/kg	Animal No. : 50251	
Finding absent : Lung, Submandibular lymph node, Mesenteric lymph node, Other organs & tissues			
Test article : 4-methylbenzaldehyde	Dose : 100 mg/kg	Animal No. : 50252	
Finding absent : Lung, Submandibular lymph node, Mesenteric lymph node, Other organs & tissues			
Test article : 4-methylbenzaldehyde	Dose : 100 mg/kg	Animal No. : 50253	
Finding absent : Lung, Submandibular lymph node, Mesenteric lymph node, Other organs & tissues			
Test article : 4-methylbenzaldehyde	Dose : 100 mg/kg	Animal No. : 50254	
Finding absent : Lung, Submandibular lymph node, Mesenteric lymph node, Other organs & tissues			
Test article : 4-methylbenzaldehyde	Dose : 100 mg/kg	Animal No. : 50255	
Finding absent : Lung, Submandibular lymph node, Mesenteric lymph node, Other organs & tissues			
Test article : 4-methylbenzaldehyde	Dose : 100 mg/kg	Animal No. : 50256	
Finding absent : Lung, Submandibular lymph node, Mesenteric lymph node, Other organs & tissues			
Test article : 4-methylbenzaldehyde	Dose : 100 mg/kg	Animal No. : 50257	
Finding absent : Lung, Submandibular lymph node, Mesenteric lymph node, Other organs & tissues			
Test article : 4-methylbenzaldehyde	Dose : 100 mg/kg	Animal No. : 50258	
Finding absent : Lung, Submandibular lymph node, Mesenteric lymph node, Other organs & tissues			
Test article : 4-methylbenzaldehyde	Dose : 100 mg/kg	Animal No. : 50259	
Finding absent : Lung, Submandibular lymph node, Mesenteric lymph node, Other organs & tissues			
Test article : 4-methylbenzaldehyde	Dose : 100 mg/kg	Animal No. : 50260	
Finding absent : Lung, Submandibular lymph node, Mesenteric lymph node, Other organs & tissues			

Necropsy findings		Stage : Day 91	Species : Rat
Sex : Female			
Test article : 4-methylbenzaldehyde	Dose : 300 mg/kg	Animal No. : 50351	
Finding absent :	Lung, Submandibular lymph node, Mesenteric lymph node, Other organs & tissues		
Test article : 4-methylbenzaldehyde	Dose : 300 mg/kg	Animal No. : 50352	
Finding absent :	Lung, Submandibular lymph node, Mesenteric lymph node, Other organs & tissues		
Test article : 4-methylbenzaldehyde	Dose : 300 mg/kg	Animal No. : 50353	
Finding absent :	Lung, Submandibular lymph node, Mesenteric lymph node, Other organs & tissues		
Test article : 4-methylbenzaldehyde	Dose : 300 mg/kg	Animal No. : 50354	
Finding absent :	Lung, Submandibular lymph node, Mesenteric lymph node, Other organs & tissues		
Test article : 4-methylbenzaldehyde	Dose : 300 mg/kg	Animal No. : 50355	
Finding absent :	Lung, Submandibular lymph node, Mesenteric lymph node, Other organs & tissues		
Test article : 4-methylbenzaldehyde	Dose : 300 mg/kg	Animal No. : 50356	
Finding absent :	Lung, Submandibular lymph node, Mesenteric lymph node, Other organs & tissues		
Test article : 4-methylbenzaldehyde	Dose : 300 mg/kg	Animal No. : 50357	
Finding absent :	Lung, Submandibular lymph node, Mesenteric lymph node, Other organs & tissues		
Test article : 4-methylbenzaldehyde	Dose : 300 mg/kg	Animal No. : 50358	
Finding absent :	Lung, Submandibular lymph node, Mesenteric lymph node, Other organs & tissues		
Test article : 4-methylbenzaldehyde	Dose : 300 mg/kg	Animal No. : 50359	
Finding absent :	Lung, Submandibular lymph node, Mesenteric lymph node, Other organs & tissues		
Test article : 4-methylbenzaldehyde	Dose : 300 mg/kg	Animal No. : 50360	
Finding absent :	Lung, Submandibular lymph node, Mesenteric lymph node, Other organs & tissues		

Necropsy findings		Stage : Day 91	Species : Rat
Sex : Female			
Test article : 4-methylbenzaldehyde	Dose : 1000 mg/kg	Animal No. : 50451	
Finding absent : Lung, Submandibular lymph node, Mesenteric lymph node, Other organs & tissues			
Test article : 4-methylbenzaldehyde	Dose : 1000 mg/kg	Animal No. : 50452	
Finding absent : Lung, Submandibular lymph node, Mesenteric lymph node, Other organs & tissues			
Test article : 4-methylbenzaldehyde	Dose : 1000 mg/kg	Animal No. : 50453	
Finding absent : Lung, Submandibular lymph node, Mesenteric lymph node, Other organs & tissues			
Test article : 4-methylbenzaldehyde	Dose : 1000 mg/kg	Animal No. : 50454	
Finding absent : Lung, Submandibular lymph node, Mesenteric lymph node, Other organs & tissues			
Test article : 4-methylbenzaldehyde	Dose : 1000 mg/kg	Animal No. : 50455	
Finding absent : Lung, Submandibular lymph node, Mesenteric lymph node, Other organs & tissues			
Test article : 4-methylbenzaldehyde	Dose : 1000 mg/kg	Animal No. : 50456	
Finding absent : Lung, Submandibular lymph node, Mesenteric lymph node, Other organs & tissues			
Test article : 4-methylbenzaldehyde	Dose : 1000 mg/kg	Animal No. : 50457	
Finding absent : Lung, Submandibular lymph node, Mesenteric lymph node, Other organs & tissues			
Test article : 4-methylbenzaldehyde	Dose : 1000 mg/kg	Animal No. : 50458	
Lung			
Findings : Finding present			
Colored patch, dark red, left lobe			
Non-graded change			
Finding Comment : 1 x 2, mm			
Submandibular lymph node			
Findings : Finding present			
Red, bilateral			
Non-graded change			
Mesenteric lymph node			
Findings : Finding present			
Red			
Non-graded change			
Finding absent : Other organs & tissues			
Test article : 4-methylbenzaldehyde	Dose : 1000 mg/kg	Animal No. : 50459	
Finding absent : Lung, Submandibular lymph node, Mesenteric lymph node, Other organs & tissues			
Test article : 4-methylbenzaldehyde	Dose : 1000 mg/kg	Animal No. : 50460	
Finding absent : Lung, Submandibular lymph node, Mesenteric lymph node, Other organs & tissues			

Organ weight Sex : Male		Stage : Day 91 Dose : 4-methylbenzaldehyde 0 mg/kg								Species : Rat	
Animal No.	Body weight g	Liver		Kidney		Heart		Lung			
		AB g	RE g/100g	AB g	RE g/100g	AB g	RE g/100g	AB g	RE g/100g		
10101	548	14.61	2.67	3.30	0.60	1.37	0.25	1.48	0.27		
10102	523	11.03	2.11	3.20	0.61	1.43	0.27	1.61	0.31		
10103	531	14.49	2.73	3.89	0.73	1.70	0.32	1.75	0.33		
10104	584	16.54	2.83	3.38	0.58	1.56	0.27	1.63	0.28		
10105	560	13.71	2.45	2.99	0.53	1.42	0.25	1.49	0.27		
10106	624	17.05	2.73	3.16	0.51	1.61	0.26	1.66	0.27		
10107	634	19.61	3.09	3.49	0.55	1.56	0.25	1.63	0.26		
10108	638	17.40	2.73	3.64	0.57	1.74	0.27	1.81	0.28		
10109	532	13.12	2.47	3.02	0.57	1.51	0.28	1.56	0.29		
10110	554	13.37	2.41	3.10	0.56	1.54	0.28	1.66	0.30		
n	10	10	10	10	10	10	10	10	10		
Mean	572.8	15.093	2.622	3.317	0.581	1.544	0.270	1.628	0.286		
S.D.	44.4	2.528	0.271	0.288	0.060	0.119	0.021	0.103	0.022		

Animal No.	Spleen		Thymus		Salivary gland		Adrenal		Pituitary gland	
	AB mg	RE mg/100g	AB mg	RE mg/100g	AB mg	RE mg/100g	AB mg	RE mg/100g	AB mg	RE mg/100g
10101	647	118.07	260	47.45	836	152.55	51	9.31	11.5	2.10
10102	609	116.44	179	34.23	573	109.56	52	9.94	12.5	2.39
10103	842	158.57	228	42.94	767	144.44	77	14.50	14.4	2.71
10104	704	120.55	396	67.81	772	132.19	72	12.33	15.1	2.59
10105	786	140.36	278	49.64	891	159.11	54	9.64	12.6	2.25
10106	642	102.88	285	45.67	752	120.51	70	11.22	11.7	1.88
10107	782	123.34	356	56.15	669	105.52	72	11.36	13.5	2.13
10108	812	127.27	478	74.92	891	139.66	83	13.01	12.0	1.88
10109	733	137.78	279	52.44	639	120.11	50	9.40	8.5	1.60
10110	561	101.26	217	39.17	790	142.60	61	11.01	13.4	2.42
n	10	10	10	10	10	10	10	10	10	10
Mean	711.8	124.652	295.6	51.042	758.0	132.625	64.2	11.172	12.52	2.195
S.D.	94.5	17.407	90.3	12.527	104.9	18.127	12.1	1.710	1.83	0.346

AB : Absolute weight, RE : Relative weight by body weight

Animal No.	Thyroid		Testis		Epididymis		Prostate		Seminal vesicle	
	AB	RE	AB	RE	AB	RE	AB	RE	AB	RE
	mg	mg/100g	g	g/100g	g	g/100g	mg	mg/100g	g	g/100g
10101	23.5	4.29	3.07	0.56	1.47	0.27	754	137.59	2.62	0.48
10102	30.1	5.76	2.74	0.52	1.25	0.24	580	110.90	2.16	0.41
10103	27.4	5.16	3.32	0.63	1.34	0.25	729	137.29	2.29	0.43
10104	25.4	4.35	3.85	0.66	1.43	0.24	828	141.78	1.92	0.33
10105	25.3	4.52	2.99	0.53	1.30	0.23	896	160.00	2.44	0.44
10106	22.2	3.56	3.28	0.53	1.26	0.20	413	66.19	1.76	0.28
10107	24.0	3.79	3.32	0.52	1.21	0.19	533	84.07	1.83	0.29
10108	28.5	4.47	4.09	0.64	1.83	0.29	1066	167.08	2.63	0.41
10109	20.0	3.76	3.55	0.67	1.36	0.26	754	141.73	2.01	0.38
10110	25.0	4.51	3.34	0.60	1.44	0.26	954	172.20	2.39	0.43
n	10	10	10	10	10	10	10	10	10	10
Mean	25.14	4.417	3.355	0.586	1.389	0.243	750.7	131.883	2.205	0.388
S.D.	2.98	0.663	0.398	0.061	0.178	0.031	199.7	34.886	0.318	0.067

Brain

Animal No.	AB	RE
	g	g/100g
10101	2.17	0.40
10102	2.21	0.42
10103	2.20	0.41
10104	2.16	0.37
10105	2.29	0.41
10106	2.16	0.35
10107	2.22	0.35
10108	2.28	0.36
10109	2.08	0.39
10110	2.37	0.43
n	10	10
Mean	2.214	0.389
S.D.	0.082	0.030

AB : Absolute weight, RE : Relative weight by body weight

Organ weight Sex : Male		Stage : Day 91 Dose : 4-methylbenzaldehyde 100 mg/kg								Species : Rat	
Animal No.	Body weight	Liver		Kidney		Heart		Lung		g	g/100g
	g	AB	RE	AB	RE	AB	RE	AB	RE		
		g	g/100g	g	g/100g	g	g/100g	g	g/100g		
10201	529	12.48	2.36	3.12	0.59	1.42	0.27	1.57	0.30		
10202	533	12.83	2.41	2.99	0.56	1.48	0.28	1.61	0.30		
10203	599	16.98	2.83	4.08	0.68	1.86	0.31	1.61	0.27		
10204	497	13.19	2.65	3.01	0.61	1.46	0.29	1.36	0.27		
10205	573	15.42	2.69	3.98	0.69	1.62	0.28	1.77	0.31		
10206	557	14.55	2.61	3.40	0.61	1.50	0.27	1.62	0.29		
10207	541	13.78	2.55	3.21	0.59	1.49	0.28	1.51	0.28		
10208	541	14.52	2.68	3.47	0.64	1.70	0.31	1.54	0.28		
10209	618	16.01	2.59	3.22	0.52	1.73	0.28	1.66	0.27		
10210	520	12.56	2.42	3.15	0.61	1.68	0.32	1.64	0.32		
n	10	10	10	10	10	10	10	10	10		
Mean	550.8	14.232	2.579	3.363	0.610	1.594	0.289	1.589	0.289		
S.D.	36.8	1.543	0.147	0.383	0.051	0.145	0.018	0.107	0.018		

Animal No.	Spleen		Thymus		Salivary gland		Adrenal		Pituitary gland	
	AB	RE	AB	RE	AB	RE	AB	RE	AB	RE
	mg	mg/100g	mg	mg/100g	mg	mg/100g	mg	mg/100g	mg	mg/100g
10201	716	135.35	327	61.81	832	157.28	58	10.96	9.2	1.74
10202	752	141.09	187	35.08	768	144.09	53	9.94	11.7	2.20
10203	857	143.07	320	53.42	907	151.42	62	10.35	13.1	2.19
10204	649	130.58	340	68.41	791	159.15	73	14.69	9.0	1.81
10205	868	151.48	349	60.91	782	136.47	64	11.17	11.8	2.06
10206	538	96.59	163	29.26	762	136.80	54	9.69	11.5	2.06
10207	656	121.26	173	31.98	541	100.00	44	8.13	9.6	1.77
10208	718	132.72	443	81.89	703	129.94	48	8.87	10.1	1.87
10209	855	138.35	276	44.66	691	111.81	48	7.77	11.3	1.83
10210	784	150.77	258	49.62	686	131.92	48	9.23	10.1	1.94
n	10	10	10	10	10	10	10	10	10	10
Mean	739.3	134.126	283.6	51.704	746.3	135.888	55.2	10.080	10.74	1.947
S.D.	106.8	16.038	90.0	17.007	98.8	18.936	9.0	1.966	1.33	0.170

AB : Absolute weight, RE : Relative weight by body weight

Animal No.	Thyroid		Testis		Epididymis		Prostate		Seminal vesicle	
	AB	RE	AB	RE	AB	RE	AB	RE	AB	RE
	mg	mg/100g	g	g/100g	g	g/100g	mg	mg/100g	g	g/100g
10201	21.4	4.05	3.11	0.59	1.45	0.27	726	137.24	2.55	0.48
10202	27.5	5.16	3.08	0.58	1.35	0.25	1070	200.75	2.32	0.44
10203	20.5	3.42	3.65	0.61	1.63	0.27	652	108.85	1.98	0.33
10204	17.3	3.48	3.23	0.65	1.43	0.29	538	108.25	2.07	0.42
10205	26.9	4.69	3.32	0.58	1.55	0.27	429	74.87	2.54	0.44
10206	26.3	4.72	3.20	0.57	1.16	0.21	462	82.94	2.01	0.36
10207	23.9	4.42	3.12	0.58	1.27	0.23	530	97.97	2.03	0.38
10208	25.1	4.64	3.35	0.62	1.40	0.26	358	66.17	1.80	0.33
10209	13.3	2.15	3.25	0.53	1.27	0.21	755	122.17	2.06	0.33
10210	14.4	2.77	3.17	0.61	1.23	0.24	466	89.62	2.09	0.40
n	10	10	10	10	10	10	10	10	10	10
Mean	21.66	3.950	3.248	0.592	1.374	0.250	598.6	108.883	2.145	0.391
S.D.	5.20	0.969	0.167	0.033	0.147	0.027	210.0	38.823	0.246	0.054

Brain

Animal No.	AB	RE
	g	g/100g
10201	2.24	0.42
10202	2.36	0.44
10203	2.11	0.35
10204	2.22	0.45
10205	2.19	0.38
10206	1.94	0.35
10207	2.01	0.37
10208	2.22	0.41
10209	2.22	0.36
10210	2.20	0.42
n	10	10
Mean	2.171	0.395
S.D.	0.121	0.037

AB : Absolute weight, RE : Relative weight by body weight

Organ weight Sex : Male		Stage : Day 91 Dose : 4-methylbenzaldehyde 300 mg/kg								Species : Rat	
Animal No.	Body weight	Liver		Kidney		Heart		Lung		g	g/100g
	g	AB	RE	AB	RE	AB	RE	AB	RE		
		g	g/100g	g	g/100g	g	g/100g	g	g/100g		
10301	561	13.50	2.41	3.37	0.60	1.57	0.28	1.61	0.29		
10302	642	15.98	2.49	3.31	0.52	1.72	0.27	1.84	0.29		
10303	634	16.84	2.66	3.23	0.51	1.51	0.24	1.79	0.28		
10304	578	15.12	2.62	3.77	0.65	1.59	0.28	1.87	0.32		
10305	573	17.31	3.02	3.60	0.63	1.71	0.30	1.63	0.28		
10306	568	15.96	2.81	3.38	0.60	1.48	0.26	1.70	0.30		
10307	571	15.68	2.75	3.30	0.58	1.69	0.30	1.41	0.25		
10308	573	15.73	2.75	3.53	0.62	1.59	0.28	1.77	0.31		
10309	573	14.87	2.60	3.21	0.56	1.69	0.29	1.65	0.29		
10310	534	13.35	2.50	3.19	0.60	1.66	0.31	1.66	0.31		
n	10	10	10	10	10	10	10	10	10		
Mean	580.7	15.434	2.661	3.389	0.587	1.621	0.281	1.693	0.292		
S.D.	32.7	1.279	0.180	0.189	0.045	0.085	0.021	0.134	0.020		

Animal No.	Spleen		Thymus		Salivary gland		Adrenal		Pituitary gland	
	AB	RE	AB	RE	AB	RE	AB	RE	AB	RE
	mg	mg/100g	mg	mg/100g	mg	mg/100g	mg	mg/100g	mg	mg/100g
10301	749	133.51	338	60.25	865	154.19	54	9.63	11.1	1.98
10302	632	98.44	351	54.67	702	109.35	61	9.50	10.2	1.59
10303	750	118.30	360	56.78	801	126.34	54	8.52	12.7	2.00
10304	778	134.60	271	46.89	851	147.23	61	10.55	10.9	1.89
10305	800	139.62	397	69.28	827	144.33	65	11.34	12.4	2.16
10306	679	119.54	264	46.48	696	122.54	61	10.74	13.2	2.32
10307	845	147.99	284	49.74	822	143.96	55	9.63	11.4	2.00
10308	708	123.56	356	62.13	754	131.59	66	11.52	12.6	2.20
10309	804	140.31	292	50.96	832	145.20	64	11.17	13.1	2.29
10310	665	124.53	350	65.54	621	116.29	50	9.36	11.0	2.06
n	10	10	10	10	10	10	10	10	10	10
Mean	741.0	128.040	326.3	56.272	777.1	134.102	59.1	10.196	11.86	2.049
S.D.	68.6	14.264	45.0	7.908	80.6	15.022	5.5	1.004	1.06	0.214

AB : Absolute weight, RE : Relative weight by body weight

Animal No.	Thyroid		Testis		Epididymis		Prostate		Seminal vesicle	
	AB	RE	AB	RE	AB	RE	AB	RE	AB	RE
	mg	mg/100g	g	g/100g	g	g/100g	mg	mg/100g	g	g/100g
10301	18.7	3.33	3.39	0.60	1.37	0.24	766	136.54	2.39	0.43
10302	20.2	3.15	2.76	0.43	1.17	0.18	1268	197.51	2.16	0.34
10303	19.3	3.04	3.28	0.52	1.33	0.21	882	139.12	2.35	0.37
10304	21.3	3.69	3.39	0.59	1.52	0.26	1019	176.30	2.70	0.47
10305	22.9	4.00	3.47	0.61	1.36	0.24	773	134.90	2.18	0.38
10306	25.6	4.51	3.15	0.55	1.48	0.26	581	102.29	2.51	0.44
10307	22.6	3.96	3.54	0.62	1.46	0.26	909	159.19	2.07	0.36
10308	18.4	3.21	3.65	0.64	1.43	0.25	663	115.71	1.90	0.33
10309	24.2	4.22	3.52	0.61	1.38	0.24	647	112.91	1.78	0.31
10310	23.2	4.34	3.57	0.67	1.32	0.25	573	107.30	2.23	0.42
n	10	10	10	10	10	10	10	10	10	10
Mean	21.64	3.745	3.372	0.584	1.382	0.239	808.1	138.177	2.227	0.385
S.D.	2.45	0.536	0.260	0.069	0.100	0.026	218.2	31.294	0.276	0.053

Brain

Animal No.	AB	RE
	g	g/100g
10301	2.16	0.39
10302	2.19	0.34
10303	2.25	0.35
10304	1.92	0.33
10305	2.18	0.38
10306	2.16	0.38
10307	2.19	0.38
10308	2.32	0.40
10309	2.29	0.40
10310	1.90	0.36
n	10	10
Mean	2.156	0.371
S.D.	0.141	0.025

AB : Absolute weight, RE : Relative weight by body weight

Organ weight Sex : Male		Stage : Day 91 Dose : 4-methylbenzaldehyde 1000 mg/kg								Species : Rat	
Animal No.	Body weight	Liver		Kidney		Heart		Lung		g	g/100g
	g	AB	RE	AB	RE	AB	RE	AB	RE		
		g	g/100g	g	g/100g	g	g/100g	g	g/100g		
10401	444	14.22	3.20	3.01	0.68	1.48	0.33	1.72	0.39		
10402	397	14.15	3.56	2.85	0.72	1.31	0.33	1.81	0.46		
10403	445	14.58	3.28	3.00	0.67	1.59	0.36	1.38	0.31		
10404	594	19.74	3.32	4.08	0.69	1.86	0.31	2.01	0.34		
10405	475	15.31	3.22	3.43	0.72	1.79	0.38	1.81	0.38		
10406	476	14.70	3.09	3.43	0.72	1.57	0.33	1.69	0.36		
10407	408	12.33	3.02	2.81	0.69	1.58	0.39	1.66	0.41		
10408	404	14.40	3.56	3.02	0.75	1.34	0.33	1.46	0.36		
10409	456	13.64	2.99	3.58	0.79	1.66	0.36	1.51	0.33		
10410	480	15.76	3.28	3.74	0.78	1.53	0.32	1.79	0.37		
n	10	10	10	10	10	10	10	10	10		
Mean	457.9	14.883	3.252	3.295	0.721	1.571	0.344	1.684	0.371		
S.D.	56.9	1.942	0.197	0.423	0.041	0.174	0.027	0.190	0.043		

Animal No.	Spleen		Thymus		Salivary gland		Adrenal		Pituitary gland	
	AB	RE	AB	RE	AB	RE	AB	RE	AB	RE
	mg	mg/100g	mg	mg/100g	mg	mg/100g	mg	mg/100g	mg	mg/100g
10401	686	154.50	295	66.44	695	156.53	51	11.49	9.8	2.21
10402	601	151.39	256	64.48	496	124.94	55	13.85	7.9	1.99
10403	630	141.57	175	39.33	670	150.56	49	11.01	10.0	2.25
10404	910	153.20	359	60.44	595	100.17	68	11.45	9.8	1.65
10405	838	176.42	422	88.84	846	178.11	66	13.89	10.5	2.21
10406	674	141.60	306	64.29	818	171.85	54	11.34	14.3	3.00
10407	582	142.65	277	67.89	729	178.68	61	14.95	10.9	2.67
10408	664	164.36	169	41.83	665	164.60	45	11.14	8.7	2.15
10409	775	169.96	199	43.64	658	144.30	50	10.96	10.5	2.30
10410	585	121.88	343	71.46	705	146.88	42	8.75	11.4	2.38
n	10	10	10	10	10	10	10	10	10	10
Mean	694.5	151.753	280.1	60.864	687.7	151.662	54.1	11.883	10.38	2.281
S.D.	111.8	15.954	82.8	15.359	100.6	24.657	8.6	1.823	1.72	0.364

AB : Absolute weight, RE : Relative weight by body weight

Animal No.	Thyroid		Testis		Epididymis		Prostate		Seminal vesicle	
	AB	RE	AB	RE	AB	RE	AB	RE	AB	RE
	mg	mg/100g	g	g/100g	g	g/100g	mg	mg/100g	g	g/100g
10401	28.6	6.44	3.01	0.68	2.68	0.60	748	168.47	2.34	0.53
10402	17.4	4.38	2.33	0.59	1.77	0.45	715	180.10	2.11	0.53
10403	19.6	4.40	2.88	0.65	1.85	0.42	536	120.45	2.43	0.55
10404	27.2	4.58	3.06	0.52	1.37	0.23	743	125.08	2.32	0.39
10405	29.2	6.15	2.89	0.61	1.69	0.36	910	191.58	2.42	0.51
10406	24.7	5.19	2.77	0.58	1.03	0.22	728	152.94	1.98	0.42
10407	27.7	6.79	2.74	0.67	1.15	0.28	754	184.80	2.04	0.50
10408	22.7	5.62	2.77	0.69	1.90	0.47	747	184.90	1.97	0.49
10409	15.0	3.29	3.24	0.71	2.85	0.63	536	117.54	1.69	0.37
10410	25.4	5.29	2.97	0.62	1.31	0.27	1048	218.33	2.47	0.51
n	10	10	10	10	10	10	10	10	10	10
Mean	23.75	5.213	2.866	0.632	1.760	0.393	746.5	164.419	2.177	0.480
S.D.	4.94	1.080	0.243	0.059	0.608	0.147	151.9	34.240	0.258	0.063

Brain

Animal No.	AB	RE
	g	g/100g
10401	2.10	0.47
10402	2.06	0.52
10403	2.14	0.48
10404	2.05	0.35
10405	2.22	0.47
10406	1.97	0.41
10407	2.02	0.50
10408	2.10	0.52
10409	2.20	0.48
10410	2.07	0.43
n	10	10
Mean	2.093	0.463
S.D.	0.077	0.053

AB : Absolute weight, RE : Relative weight by body weight

Organ weight Sex : Female		Stage : Day 91 Dose : 4-methylbenzaldehyde 0 mg/kg								Species : Rat	
Animal No.	Body weight	Liver		Kidney		Heart		Lung		g	g/100g
	g	AB g	RE g/100g	AB g	RE g/100g	AB g	RE g/100g	AB g	RE g/100g		
50151	327	7.43	2.27	1.76	0.54	0.96	0.29	1.15	0.35		
50152	318	8.63	2.71	2.27	0.71	1.00	0.31	1.13	0.36		
50153	330	7.95	2.41	2.23	0.68	1.08	0.33	1.20	0.36		
50154	379	9.25	2.44	2.39	0.63	1.15	0.30	1.35	0.36		
50155	306	7.54	2.46	2.01	0.66	0.97	0.32	1.20	0.39		
50156	323	7.40	2.29	2.12	0.66	1.06	0.33	1.28	0.40		
50157	317	8.04	2.54	2.05	0.65	1.12	0.35	1.24	0.39		
50158	342	8.12	2.37	2.06	0.60	1.02	0.30	1.26	0.37		
50159	354	8.16	2.31	2.23	0.63	1.13	0.32	1.40	0.40		
50160	286	7.95	2.78	2.04	0.71	1.03	0.36	1.29	0.45		
n	10	10	10	10	10	10	10	10	10		
Mean	328.2	8.047	2.458	2.116	0.647	1.052	0.321	1.250	0.383		
S.D.	25.8	0.566	0.173	0.175	0.051	0.067	0.022	0.085	0.030		

Animal No.	Spleen		Thymus		Salivary gland		Adrenal		Pituitary gland	
	AB mg	RE mg/100g	AB mg	RE mg/100g	AB mg	RE mg/100g	AB mg	RE mg/100g	AB mg	RE mg/100g
50151	544	166.36	252	77.06	405	123.85	57	17.43	13.5	4.13
50152	411	129.25	290	91.19	418	131.45	83	26.10	24.1	7.58
50153	486	147.27	281	85.15	417	126.36	62	18.79	13.8	4.18
50154	437	115.30	235	62.01	579	152.77	77	20.32	15.9	4.20
50155	569	185.95	274	89.54	358	116.99	58	18.95	15.7	5.13
50156	519	160.68	235	72.76	514	159.13	61	18.89	15.9	4.92
50157	526	165.93	234	73.82	475	149.84	79	24.92	15.6	4.92
50158	574	167.84	190	55.56	444	129.82	74	21.64	14.1	4.12
50159	537	151.69	370	104.52	610	172.32	72	20.34	19.0	5.37
50160	532	186.01	206	72.03	520	181.82	80	27.97	18.0	6.29
n	10	10	10	10	10	10	10	10	10	10
Mean	513.5	157.628	256.7	78.364	474.0	144.435	70.3	21.535	16.56	5.084
S.D.	53.6	22.622	50.9	14.533	80.8	22.050	9.9	3.570	3.17	1.119

AB : Absolute weight, RE : Relative weight by body weight

Animal No.	Thyroid		Ovary		Uterus		Brain	
	AB	RE	AB	RE	AB	RE	AB	RE
	mg	mg/100g	mg	mg/100g	mg	mg/100g	g	g/100g
50151	19.5	5.96	103	31.50	938	286.85	2.00	0.61
50152	16.7	5.25	73	22.96	745	234.28	2.06	0.65
50153	20.1	6.09	90	27.27	1098	332.73	2.02	0.61
50154	20.5	5.41	126	33.25	758	200.00	2.20	0.58
50155	14.5	4.74	91	29.74	471	153.92	2.03	0.66
50156	25.9	8.02	104	32.20	470	145.51	2.09	0.65
50157	16.6	5.24	111	35.02	994	313.56	2.04	0.64
50158	18.5	5.41	106	30.99	564	164.91	1.96	0.57
50159	18.3	5.17	97	27.40	682	192.66	2.05	0.58
50160	16.6	5.80	120	41.96	710	248.25	2.08	0.73
n	10	10	10	10	10	10	10	10
Mean	18.72	5.709	102.1	31.229	743.0	227.267	2.053	0.628
S.D.	3.13	0.907	15.4	5.117	214.1	67.084	0.064	0.048

AB : Absolute weight, RE : Relative weight by body weight

Organ weight Sex : Female		Stage : Day 91 Dose : 4-methylbenzaldehyde 100 mg/kg								Species : Rat	
Animal No.	Body weight	Liver		Kidney		Heart		Lung		g	g/100g
	g	AB	RE	AB	RE	AB	RE	AB	RE		
		g	g/100g	g	g/100g	g	g/100g	g	g/100g		
50251	372	9.56	2.57	2.19	0.59	1.08	0.29	1.38	0.37		
50252	377	8.33	2.21	1.98	0.53	1.00	0.27	1.34	0.36		
50253	343	7.62	2.22	1.82	0.53	0.97	0.28	1.18	0.34		
50254	352	8.32	2.36	2.08	0.59	1.03	0.29	1.17	0.33		
50255	311	7.65	2.46	2.15	0.69	1.15	0.37	1.34	0.43		
50256	277	5.85	2.11	1.60	0.58	0.86	0.31	1.21	0.44		
50257	338	7.67	2.27	1.90	0.56	0.98	0.29	1.26	0.37		
50258	350	8.22	2.35	2.11	0.60	1.12	0.32	1.28	0.37		
50259	265	6.24	2.35	1.82	0.69	0.85	0.32	1.01	0.38		
50260	414	9.50	2.29	2.40	0.58	1.16	0.28	1.29	0.31		
n	10	10	10	10	10	10	10	10	10		
Mean	339.9	7.896	2.319	2.005	0.594	1.020	0.302	1.246	0.370		
S.D.	45.4	1.199	0.131	0.229	0.056	0.110	0.029	0.109	0.041		

Animal No.	Spleen		Thymus		Salivary gland		Adrenal		Pituitary gland	
	AB	RE	AB	RE	AB	RE	AB	RE	AB	RE
	mg	mg/100g	mg	mg/100g	mg	mg/100g	mg	mg/100g	mg	mg/100g
50251	582	156.45	283	76.08	482	129.57	94	25.27	22.9	6.16
50252	506	134.22	380	100.80	461	122.28	56	14.85	13.6	3.61
50253	482	140.52	243	70.85	450	131.20	63	18.37	15.8	4.61
50254	581	165.06	227	64.49	461	130.97	78	22.16	19.2	5.45
50255	483	155.31	266	85.53	500	160.77	79	25.40	13.4	4.31
50256	494	178.34	202	72.92	436	157.40	65	23.47	14.6	5.27
50257	396	117.16	198	58.58	391	115.68	63	18.64	13.8	4.08
50258	529	151.14	362	103.43	496	141.71	74	21.14	14.3	4.09
50259	382	144.15	213	80.38	433	163.40	66	24.91	18.7	7.06
50260	624	150.72	371	89.61	523	126.33	75	18.12	16.0	3.86
n	10	10	10	10	10	10	10	10	10	10
Mean	505.9	149.307	274.5	80.267	463.3	137.931	71.3	21.233	16.23	4.850
S.D.	77.9	16.827	71.8	14.729	38.6	17.003	11.0	3.627	3.11	1.114

AB : Absolute weight, RE : Relative weight by body weight

Animal No.	Thyroid		Ovary		Uterus		Brain	
	AB	RE	AB	RE	AB	RE	AB	RE
	mg	mg/100g	mg	mg/100g	mg	mg/100g	g	g/100g
50251	22.6	6.08	103	27.69	685	184.14	2.21	0.59
50252	15.2	4.03	86	22.81	645	171.09	2.07	0.55
50253	16.1	4.69	75	21.87	663	193.29	2.16	0.63
50254	20.4	5.80	79	22.44	623	176.99	2.00	0.57
50255	23.8	7.65	124	39.87	1224	393.57	2.06	0.66
50256	24.2	8.74	77	27.80	508	183.39	1.95	0.70
50257	18.9	5.59	71	21.01	632	186.98	2.10	0.62
50258	19.1	5.46	99	28.29	452	129.14	2.15	0.61
50259	18.6	7.02	76	28.68	758	286.04	2.16	0.82
50260	14.5	3.50	96	23.19	956	230.92	2.02	0.49
n	10	10	10	10	10	10	10	10
Mean	19.34	5.856	88.6	26.365	714.6	213.555	2.088	0.624
S.D.	3.45	1.613	16.7	5.600	224.8	75.365	0.083	0.090

AB : Absolute weight, RE : Relative weight by body weight

Organ weight Sex : Female		Stage : Day 91 Dose : 4-methylbenzaldehyde 300 mg/kg								Species : Rat		
Animal No.	Body weight	Liver		Kidney		Heart		Lung		n	Mean	S.D.
	g	AB	RE	AB	RE	AB	RE	AB	RE			
		g	g/100g	g	g/100g	g	g/100g	g	g/100g			
50351	362	9.40	2.60	2.14	0.59	1.14	0.31	1.38	0.38			
50352	399	9.26	2.32	1.97	0.49	1.24	0.31	1.25	0.31			
50353	247	5.90	2.39	1.78	0.72	0.72	0.29	1.09	0.44			
50354	376	9.66	2.57	2.34	0.62	1.16	0.31	1.50	0.40			
50355	326	7.95	2.44	1.98	0.61	1.11	0.34	1.35	0.41			
50356	350	8.18	2.34	1.90	0.54	0.99	0.28	1.19	0.34			
50357	359	9.15	2.55	1.91	0.53	1.03	0.29	1.16	0.32			
50358	409	9.82	2.40	2.27	0.56	1.08	0.26	1.30	0.32			
50359	362	8.50	2.35	2.03	0.56	1.09	0.30	1.22	0.34			
50360	304	7.15	2.35	1.76	0.58	0.92	0.30	1.26	0.41			
n	10	10	10	10	10	10	10	10	10			
Mean	349.4	8.497	2.431	2.008	0.580	1.048	0.299	1.270	0.367			
S.D.	47.4	1.242	0.105	0.193	0.063	0.146	0.021	0.118	0.046			

Animal No.	Spleen		Thymus		Salivary gland		Adrenal		Pituitary gland		n	Mean	S.D.
	AB	RE	AB	RE	AB	RE	AB	RE	AB	RE			
	mg	mg/100g	mg	mg/100g	mg	mg/100g	mg	mg/100g	mg	mg/100g			
50351	529	146.13	416	114.92	422	116.57	77	21.27	19.1	5.28			
50352	655	164.16	344	86.22	464	116.29	74	18.55	15.8	3.96			
50353	343	138.87	176	71.26	475	192.31	80	32.39	11.3	4.57			
50354	618	164.36	306	81.38	508	135.11	90	23.94	18.3	4.87			
50355	558	171.17	311	95.40	632	193.87	84	25.77	19.5	5.98			
50356	547	156.29	292	83.43	424	121.14	70	20.00	14.8	4.23			
50357	472	131.48	209	58.22	515	143.45	76	21.17	16.8	4.68			
50358	483	118.09	225	55.01	455	111.25	60	14.67	16.0	3.91			
50359	475	131.22	187	51.66	506	139.78	69	19.06	16.0	4.42			
50360	430	141.45	233	76.64	416	136.84	65	21.38	10.8	3.55			
n	10	10	10	10	10	10	10	10	10	10			
Mean	511.0	146.322	269.9	77.414	481.7	140.661	74.5	21.820	15.84	4.545			
S.D.	90.9	17.273	76.8	19.527	64.3	29.764	8.9	4.778	2.95	0.713			

AB : Absolute weight, RE : Relative weight by body weight

Animal No.	Thyroid		Ovary		Uterus		Brain	
	AB	RE	AB	RE	AB	RE	AB	RE
	mg	mg/100g	mg	mg/100g	mg	mg/100g	g	g/100g
50351	17.8	4.92	130	35.91	712	196.69	2.17	0.60
50352	23.2	5.81	74	18.55	396	99.25	1.99	0.50
50353	23.3	9.43	76	30.77	391	158.30	1.92	0.78
50354	14.1	3.75	137	36.44	526	139.89	2.22	0.59
50355	15.4	4.72	131	40.18	623	191.10	2.08	0.64
50356	11.6	3.31	88	25.14	653	186.57	2.15	0.61
50357	18.6	5.18	93	25.91	1132	315.32	1.81	0.50
50358	24.8	6.06	113	27.63	930	227.38	2.08	0.51
50359	18.9	5.22	83	22.93	1382	381.77	2.01	0.56
50360	21.1	6.94	85	27.96	538	176.97	2.10	0.69
n	10	10	10	10	10	10	10	10
Mean	18.88	5.534	101.0	29.142	728.3	207.324	2.053	0.598
S.D.	4.31	1.729	24.4	6.704	324.8	83.570	0.123	0.089

AB : Absolute weight, RE : Relative weight by body weight

Organ weight Sex : Female		Stage : Day 91 Dose : 4-methylbenzaldehyde 1000 mg/kg								Species : Rat	
Animal No.	Body weight g	Liver		Kidney		Heart		Lung			
		AB g	RE g/100g	AB g	RE g/100g	AB g	RE g/100g	AB g	RE g/100g		
50451	304	9.70	3.19	2.45	0.81	1.10	0.36	1.17	0.38		
50452	313	10.35	3.31	2.18	0.70	1.12	0.36	1.44	0.46		
50453	307	8.74	2.85	2.06	0.67	1.06	0.35	1.25	0.41		
50454	290	9.81	3.38	2.12	0.73	1.17	0.40	1.07	0.37		
50455	283	10.75	3.80	2.51	0.89	1.12	0.40	1.27	0.45		
50456	280	8.14	2.91	1.89	0.68	0.94	0.34	1.05	0.38		
50457	273	9.18	3.36	2.22	0.81	1.15	0.42	1.21	0.44		
50458	277	9.27	3.35	2.35	0.85	1.07	0.39	1.20	0.43		
50459	294	9.71	3.30	1.97	0.67	0.89	0.30	1.25	0.43		
50460	263	8.52	3.24	1.90	0.72	1.15	0.44	1.19	0.45		
n	10	10	10	10	10	10	10	10	10		
Mean	288.4	9.417	3.269	2.165	0.753	1.077	0.376	1.210	0.420		
S.D.	16.1	0.812	0.263	0.220	0.080	0.093	0.042	0.109	0.033		

Animal No.	Spleen		Thymus		Salivary gland		Adrenal		Pituitary gland	
	AB mg	RE mg/100g	AB mg	RE mg/100g	AB mg	RE mg/100g	AB mg	RE mg/100g	AB mg	RE mg/100g
50451	555	182.57	254	83.55	479	157.57	76	25.00	14.4	4.74
50452	664	212.14	337	107.67	605	193.29	78	24.92	11.5	3.67
50453	502	163.52	190	61.89	492	160.26	64	20.85	10.1	3.29
50454	536	184.83	219	75.52	444	153.10	63	21.72	11.5	3.97
50455	596	210.60	227	80.21	469	165.72	109	38.52	18.9	6.68
50456	469	167.50	208	74.29	402	143.57	80	28.57	11.5	4.11
50457	589	215.75	233	85.35	482	176.56	94	34.43	13.4	4.91
50458	542	195.67	269	97.11	604	218.05	89	32.13	12.3	4.44
50459	544	185.03	360	122.45	489	166.33	81	27.55	13.1	4.46
50460	440	167.30	188	71.48	459	174.52	82	31.18	13.3	5.06
n	10	10	10	10	10	10	10	10	10	10
Mean	543.7	188.491	248.5	85.952	492.5	170.897	81.6	28.487	13.00	4.533
S.D.	64.6	19.483	58.7	18.259	64.6	21.530	13.6	5.641	2.42	0.935

AB : Absolute weight, RE : Relative weight by body weight

Animal No.	Thyroid		Ovary		Uterus		Brain	
	AB	RE	AB	RE	AB	RE	AB	RE
	mg	mg/100g	mg	mg/100g	mg	mg/100g	g	g/100g
50451	23.8	7.83	123	40.46	848	278.95	2.05	0.67
50452	13.0	4.15	93	29.71	510	162.94	2.10	0.67
50453	22.3	7.26	90	29.32	850	276.87	2.00	0.65
50454	22.7	7.83	109	37.59	596	205.52	1.91	0.66
50455	25.1	8.87	54	19.08	580	204.95	2.09	0.74
50456	20.2	7.21	82	29.29	569	203.21	2.06	0.74
50457	16.6	6.08	95	34.80	492	180.22	2.09	0.77
50458	19.6	7.08	116	41.88	1457	525.99	2.10	0.76
50459	23.4	7.96	76	25.85	577	196.26	2.05	0.70
50460	16.0	6.08	70	26.62	507	192.78	2.10	0.80
n	10	10	10	10	10	10	10	10
Mean	20.27	7.035	90.8	31.460	698.6	242.769	2.055	0.716
S.D.	3.95	1.322	21.4	7.140	296.6	106.466	0.060	0.053

AB : Absolute weight, RE : Relative weight by body weight

Histopathological findings		Stage : Day 91	Species : Rat
Test article : 4-methylbenzaldehyde	Dose : 0 mg/kg	Animal No. : 10101	
Prostate			
Findings : Finding present			
Infiltration, inflammatory cell			
Slight			
Pituitary gland			
Findings : Finding present			
Cyst, pars distalis			
Slight			
Thyroid			
Findings : Finding present			
Remnant, ultimobranchial body			
Slight			
Finding Comment : unilateral : left			
Finding absent : Lung, Nasal cavity, Bronchus, Trachea, Tongue, Submandibular gland, Sublingual gland, Esophagus, Stomach, Duodenum, Jejunum, Ileum, Cecum, Colon, Rectum, Pancreas, Liver, Heart, Thoracic aorta, Kidney, Urinary bladder, Testis, Epididymis, Seminal vesicle, Coagulating gland, Cerebrum, Cerebellum, Spinal cord, Sciatic nerve, Spleen, Thymus, Bone marrow, sternum, Bone marrow, femur, Submandibular lymph node, Mesenteric lymph node, Peyer's patch, Parathyroid, Adrenal, Eyeball, Harderian gland, Zymbal's gland, Skeletal muscle, Sternum, Femur, Skin, Mammary gland			
Test article : 4-methylbenzaldehyde	Dose : 0 mg/kg	Animal No. : 10102	
Liver			
Findings : Finding present			
Microgranuloma			
Slight			
Prostate			
Findings : Finding present			
Infiltration, inflammatory cell			
Slight			
Eyeball			
Findings : Finding present			
Dysplasia, retina			
Slight			
Finding Comment : unilateral : right			
Finding absent : Lung, Nasal cavity, Bronchus, Trachea, Tongue, Submandibular gland, Sublingual gland, Esophagus, Stomach, Duodenum, Jejunum, Ileum, Cecum, Colon, Rectum, Pancreas, Heart, Thoracic aorta, Kidney, Urinary bladder, Testis, Epididymis, Seminal vesicle, Coagulating gland, Cerebrum, Cerebellum, Spinal cord, Sciatic nerve, Spleen, Thymus, Bone marrow, sternum, Bone marrow, femur, Submandibular lymph node, Mesenteric lymph node, Peyer's patch, Pituitary gland, Thyroid, Parathyroid, Adrenal, Harderian gland, Zymbal's gland, Skeletal muscle, Sternum, Femur, Skin, Mammary gland			

Histopathological findings		Stage : Day 91	Species : Rat
Test article : 4-methylbenzaldehyde	Dose : 0 mg/kg	Animal No. : 10103	
Kidney			
Findings : Finding present			
Basophilic change, renal tubule, focal			
Slight			
Finding Comment : bilateral			
Prostate			
Findings : Finding present			
Infiltration, inflammatory cell			
Slight			
Finding absent : Lung, Nasal cavity, Bronchus, Trachea, Tongue, Submandibular gland, Sublingual gland, Esophagus, Stomach, Duodenum, Jejunum, Ileum, Cecum, Colon, Rectum, Pancreas, Liver, Heart, Thoracic aorta, Urinary bladder, Testis, Epididymis, Seminal vesicle, Coagulating gland, Cerebrum, Cerebellum, Spinal cord, Sciatic nerve, Spleen, Thymus, Bone marrow, sternum, Bone marrow, femur, Submandibular lymph node, Mesenteric lymph node, Peyer's patch, Pituitary gland, Thyroid, Parathyroid, Adrenal, Eyeball, Harderian gland, Zymbal's gland, Skeletal muscle, Sternum, Femur, Skin, Mammary gland			
Test article : 4-methylbenzaldehyde	Dose : 0 mg/kg	Animal No. : 10104	
Parathyroid			
Findings : Finding present			
Cyst			
Slight			
Finding Comment : unilateral : left			
Finding absent : Lung, Nasal cavity, Bronchus, Trachea, Tongue, Submandibular gland, Sublingual gland, Esophagus, Stomach, Duodenum, Jejunum, Ileum, Cecum, Colon, Rectum, Pancreas, Liver, Heart, Thoracic aorta, Kidney, Urinary bladder, Testis, Epididymis, Prostate, Seminal vesicle, Coagulating gland, Cerebrum, Cerebellum, Spinal cord, Sciatic nerve, Spleen, Thymus, Bone marrow, sternum, Bone marrow, femur, Submandibular lymph node, Mesenteric lymph node, Peyer's patch, Pituitary gland, Thyroid, Adrenal, Eyeball, Harderian gland, Zymbal's gland, Skeletal muscle, Sternum, Femur, Skin, Mammary gland			
Test article : 4-methylbenzaldehyde	Dose : 0 mg/kg	Animal No. : 10105	
Heart			
Findings : Finding present			
Infiltration, inflammatory cell, focal			
Slight			
Pituitary gland			
Findings : Finding present			
Remnant, craniopharyngeal duct			
Slight			
Finding absent : Lung, Nasal cavity, Bronchus, Trachea, Tongue, Submandibular gland, Sublingual gland, Esophagus, Stomach, Duodenum, Jejunum, Ileum, Cecum, Colon, Rectum, Pancreas, Liver, Thoracic aorta, Kidney, Urinary bladder, Testis, Epididymis, Prostate, Seminal vesicle, Coagulating gland, Cerebrum, Cerebellum, Spinal cord, Sciatic nerve, Spleen, Thymus, Bone marrow, sternum, Bone marrow, femur, Submandibular lymph node, Mesenteric lymph node, Peyer's patch, Thyroid, Parathyroid, Adrenal, Eyeball, Harderian gland, Zymbal's gland, Skeletal muscle, Sternum, Femur, Skin, Mammary gland			

Histopathological findings		Stage : Day 91	Species : Rat
Test article : 4-methylbenzaldehyde	Dose : 0 mg/kg	Animal No. : 10106	
Heart			
Findings : Finding present			
Infiltration, inflammatory cell, focal			
Slight			
Prostate			
Findings : Finding present			
Infiltration, inflammatory cell			
Mild			
Finding absent :			
Lung, Nasal cavity, Bronchus, Trachea, Tongue, Submandibular gland, Sublingual gland, Esophagus, Stomach, Duodenum, Jejunum, Ileum, Cecum, Colon, Rectum, Pancreas, Liver, Thoracic aorta, Kidney, Urinary bladder, Testis, Epididymis, Seminal vesicle, Coagulating gland, Cerebrum, Cerebellum, Spinal cord, Sciatic nerve, Spleen, Thymus, Bone marrow, sternum, Bone marrow, femur, Submandibular lymph node, Mesenteric lymph node, Peyer's patch, Pituitary gland, Thyroid, Parathyroid, Adrenal, Eyeball, Harderian gland, Zymbal's gland, Skeletal muscle, Sternum, Femur, Skin, Mammary gland			
Test article : 4-methylbenzaldehyde	Dose : 0 mg/kg	Animal No. : 10107	
Prostate			
Findings : Finding present			
Infiltration, inflammatory cell			
Mild			
Thyroid			
Findings : Finding present			
Remnant, ultimobranchial body			
Slight			
Finding Comment : unilateral : right			
Finding absent :			
Lung, Nasal cavity, Bronchus, Trachea, Tongue, Submandibular gland, Sublingual gland, Esophagus, Stomach, Duodenum, Jejunum, Ileum, Cecum, Colon, Rectum, Pancreas, Liver, Heart, Thoracic aorta, Kidney, Urinary bladder, Testis, Epididymis, Seminal vesicle, Coagulating gland, Cerebrum, Cerebellum, Spinal cord, Sciatic nerve, Spleen, Thymus, Bone marrow, sternum, Bone marrow, femur, Submandibular lymph node, Mesenteric lymph node, Peyer's patch, Pituitary gland, Parathyroid, Adrenal, Eyeball, Harderian gland, Zymbal's gland, Skeletal muscle, Sternum, Femur, Skin, Mammary gland			

Histopathological findings		Stage : Day 91	Species : Rat
Sex : Male			
Test article : 4-methylbenzaldehyde	Dose : 0 mg/kg	Animal No. : 10108	
Kidney			
Findings : Finding present			
Cast, hyaline			
Slight			
Finding Comment : unilateral : right			
Pituitary gland			
Findings : Finding present			
Remnant, craniopharyngeal duct			
Slight			
Finding absent : Lung, Nasal cavity, Bronchus, Trachea, Tongue, Submandibular gland, Sublingual gland, Esophagus, Stomach, Duodenum, Jejunum, Ileum, Cecum, Colon, Rectum, Pancreas, Liver, Heart, Thoracic aorta, Urinary bladder, Testis, Epididymis, Prostate, Seminal vesicle, Coagulating gland, Cerebrum, Cerebellum, Spinal cord, Sciatic nerve, Spleen, Thymus, Bone marrow, sternum, Bone marrow, femur, Submandibular lymph node, Mesenteric lymph node, Peyer's patch, Thyroid, Parathyroid, Adrenal, Eyeball, Harderian gland, Zymbal's gland, Skeletal muscle, Sternum, Femur, Skin, Mammary gland			
Test article : 4-methylbenzaldehyde	Dose : 0 mg/kg	Animal No. : 10109	
Heart			
Findings : Finding present			
Infiltration, inflammatory cell, focal			
Slight			
Finding absent : Lung, Nasal cavity, Bronchus, Trachea, Tongue, Submandibular gland, Sublingual gland, Esophagus, Stomach, Duodenum, Jejunum, Ileum, Cecum, Colon, Rectum, Pancreas, Liver, Thoracic aorta, Kidney, Urinary bladder, Testis, Epididymis, Prostate, Seminal vesicle, Coagulating gland, Cerebrum, Cerebellum, Spinal cord, Sciatic nerve, Spleen, Thymus, Bone marrow, sternum, Bone marrow, femur, Submandibular lymph node, Mesenteric lymph node, Peyer's patch, Pituitary gland, Thyroid, Parathyroid, Adrenal, Eyeball, Harderian gland, Zymbal's gland, Skeletal muscle, Sternum, Femur, Skin, Mammary gland			
Test article : 4-methylbenzaldehyde	Dose : 0 mg/kg	Animal No. : 10110	
Thyroid			
Findings : Finding present			
Remnant, ultimobranchial body			
Slight			
Finding Comment : unilateral : right			
Finding absent : Lung, Nasal cavity, Bronchus, Trachea, Tongue, Submandibular gland, Sublingual gland, Esophagus, Stomach, Duodenum, Jejunum, Ileum, Cecum, Colon, Rectum, Pancreas, Liver, Heart, Thoracic aorta, Kidney, Urinary bladder, Testis, Epididymis, Prostate, Seminal vesicle, Coagulating gland, Cerebrum, Cerebellum, Spinal cord, Sciatic nerve, Spleen, Thymus, Bone marrow, sternum, Bone marrow, femur, Submandibular lymph node, Mesenteric lymph node, Peyer's patch, Pituitary gland, Parathyroid, Adrenal, Eyeball, Harderian gland, Zymbal's gland, Skeletal muscle, Sternum, Femur, Skin, Mammary gland			

Histopathological findings		Stage : Day 91	Species : Rat
Sex : Male			
Test article : 4-methylbenzaldehyde	Dose : 100 mg/kg	Animal No. : 10201	
Finding absent :	Submandibular gland, Sublingual gland, Stomach, Kidney, Urinary bladder, Epididymis, Sciatic nerve, Skeletal muscle, Sternum, Femur		
Test article : 4-methylbenzaldehyde	Dose : 100 mg/kg	Animal No. : 10202	
Finding absent :	Submandibular gland, Sublingual gland, Stomach, Kidney, Urinary bladder, Epididymis, Sciatic nerve, Skeletal muscle, Sternum, Femur		
Test article : 4-methylbenzaldehyde	Dose : 100 mg/kg	Animal No. : 10203	
Epididymis			
Findings : Finding present			
Granuloma, spermatic			
Slight			
Finding Comment : unilateral : left			
Finding absent :	Submandibular gland, Sublingual gland, Stomach, Kidney, Urinary bladder, Sciatic nerve, Skeletal muscle, Sternum, Femur		
Test article : 4-methylbenzaldehyde	Dose : 100 mg/kg	Animal No. : 10204	
Finding absent :	Submandibular gland, Sublingual gland, Stomach, Kidney, Urinary bladder, Epididymis, Sciatic nerve, Skeletal muscle, Sternum, Femur		
Test article : 4-methylbenzaldehyde	Dose : 100 mg/kg	Animal No. : 10205	
Finding absent :	Submandibular gland, Sublingual gland, Stomach, Kidney, Urinary bladder, Epididymis, Sciatic nerve, Skeletal muscle, Sternum, Femur		
Test article : 4-methylbenzaldehyde	Dose : 100 mg/kg	Animal No. : 10206	
Kidney			
Findings : Finding present			
Cast, hyaline			
Slight			
Finding Comment : unilateral : right			
Finding absent :	Submandibular gland, Sublingual gland, Stomach, Urinary bladder, Epididymis, Sciatic nerve, Skeletal muscle, Sternum, Femur		
Test article : 4-methylbenzaldehyde	Dose : 100 mg/kg	Animal No. : 10207	
Finding absent :	Submandibular gland, Sublingual gland, Stomach, Kidney, Urinary bladder, Epididymis, Sciatic nerve, Skeletal muscle, Sternum, Femur		
Test article : 4-methylbenzaldehyde	Dose : 100 mg/kg	Animal No. : 10208	
Finding absent :	Submandibular gland, Sublingual gland, Stomach, Kidney, Urinary bladder, Epididymis, Sciatic nerve, Skeletal muscle, Sternum, Femur		
Test article : 4-methylbenzaldehyde	Dose : 100 mg/kg	Animal No. : 10209	
Finding absent :	Submandibular gland, Sublingual gland, Stomach, Kidney, Urinary bladder, Epididymis, Sciatic nerve, Skeletal muscle, Sternum, Femur		
Test article : 4-methylbenzaldehyde	Dose : 100 mg/kg	Animal No. : 10210	
Finding absent :	Submandibular gland, Sublingual gland, Stomach, Kidney, Urinary bladder, Epididymis, Sciatic nerve, Skeletal muscle, Sternum, Femur		

Histopathological findings		Stage : Day 91	Species : Rat
Sex : Male			
Test article : 4-methylbenzaldehyde	Dose : 300 mg/kg	Animal No. : 10301	
Finding absent : Submandibular gland, Sublingual gland, Stomach, Kidney, Urinary bladder, Epididymis, Sciatic nerve, Skeletal muscle, Sternum, Femur			
Test article : 4-methylbenzaldehyde	Dose : 300 mg/kg	Animal No. : 10302	
Kidney			
Findings : Finding present			
Basophilic change, renal tubule, focal			
Slight			
Finding Comment : bilateral			
Finding absent : Submandibular gland, Sublingual gland, Stomach, Urinary bladder, Epididymis, Sciatic nerve, Skeletal muscle, Sternum, Femur			
Test article : 4-methylbenzaldehyde	Dose : 300 mg/kg	Animal No. : 10303	
Finding absent : Submandibular gland, Sublingual gland, Stomach, Kidney, Urinary bladder, Epididymis, Sciatic nerve, Skeletal muscle, Sternum, Femur			
Test article : 4-methylbenzaldehyde	Dose : 300 mg/kg	Animal No. : 10304	
Finding absent : Submandibular gland, Sublingual gland, Stomach, Kidney, Urinary bladder, Epididymis, Sciatic nerve, Skeletal muscle, Sternum, Femur			
Test article : 4-methylbenzaldehyde	Dose : 300 mg/kg	Animal No. : 10305	
Kidney			
Findings : Finding present			
Basophilic change, renal tubule, focal			
Slight			
Finding Comment : unilateral : left			
Finding absent : Submandibular gland, Sublingual gland, Stomach, Urinary bladder, Epididymis, Sciatic nerve, Skeletal muscle, Sternum, Femur			
Test article : 4-methylbenzaldehyde	Dose : 300 mg/kg	Animal No. : 10306	
Finding absent : Submandibular gland, Sublingual gland, Stomach, Kidney, Urinary bladder, Epididymis, Sciatic nerve, Skeletal muscle, Sternum, Femur			
Test article : 4-methylbenzaldehyde	Dose : 300 mg/kg	Animal No. : 10307	
Kidney			
Findings : Finding present			
Basophilic change, renal tubule, focal			
Slight			
Finding Comment : bilateral			
Finding absent : Submandibular gland, Sublingual gland, Stomach, Urinary bladder, Epididymis, Sciatic nerve, Skeletal muscle, Sternum, Femur			
Test article : 4-methylbenzaldehyde	Dose : 300 mg/kg	Animal No. : 10308	
Finding absent : Submandibular gland, Sublingual gland, Stomach, Kidney, Urinary bladder, Epididymis, Sciatic nerve, Skeletal muscle, Sternum, Femur			

Histopathological findings			Stage : Day 91	Species : Rat
Sex : Male				
Test article : 4-methylbenzaldehyde	Dose : 300 mg/kg	Animal No. : 10309		
Kidney				
Findings : Finding present				
Cast, hyaline				
Slight				
Finding Comment : unilateral : left				
Finding absent :	Submandibular gland, Sublingual gland, Stomach, Urinary bladder, Epididymis, Sciatic nerve, Skeletal muscle, Sternum, Femur			
Test article : 4-methylbenzaldehyde	Dose : 300 mg/kg	Animal No. : 10310		
Finding absent :	Submandibular gland, Sublingual gland, Stomach, Kidney, Urinary bladder, Epididymis, Sciatic nerve, Skeletal muscle, Sternum, Femur			

Histopathological findings		Stage : Day 91	Species : Rat
Sex : Male	Dose : 1000 mg/kg	Animal No. : 10401	
Test article : 4-methylbenzaldehyde			
Submandibular gland			
Findings : Finding present			
Decrease, secretory granule, granular duct			
Slight			
Finding Comment : unilateral : left			
Stomach			
Findings : Finding present			
Hyperkeratosis, forestomach			
Slight			
Kidney			
Findings : Finding present			
Basophilic change, renal tubule, focal			
Slight			
Finding Comment : unilateral : right			
Urinary bladder			
Findings : Finding present			
Vacuolation, urothelium			
Mild			
Epididymis			
Findings : Finding present			
Granuloma, spermatic			
Slight			
Finding Comment : bilateral			
Cribriform change			
Slight			
Finding Comment : bilateral			
Decrease, spermatozoa			
Slight			
Finding Comment : bilateral			
Skeletal muscle			
Findings : Finding present			
Degeneration, muscular, focal			
Slight			
Sternum			
Findings : Finding present			
Increase, trabecular			
Slight			
Femur			
Findings : Finding present			
Increase, trabecular			
Slight			

Histopathological findings		Stage : Day 91	Species : Rat
Sex : Male			
Test article : 4-methylbenzaldehyde	Dose : 1000 mg/kg	Animal No. : 10401	
Finding absent :	Lung, Nasal cavity, Bronchus, Trachea, Tongue, Sublingual gland, Esophagus, Duodenum, Jejunum, Ileum, Cecum, Colon, Rectum, Pancreas, Liver, Heart, Thoracic aorta, Testis, Prostate, Seminal vesicle, Coagulating gland, Cerebrum, Cerebellum, Spinal cord, Sciatic nerve, Spleen, Thymus, Bone marrow, sternum, Bone marrow, femur, Submandibular lymph node, Mesenteric lymph node, Peyer's patch, Pituitary gland, Thyroid, Parathyroid, Adrenal, Eyeball, Harderian gland, Zymbal's gland, Skin, Mammary gland		
Test article : 4-methylbenzaldehyde	Dose : 1000 mg/kg	Animal No. : 10402	
Submandibular gland	Findings : Finding present Decrease, secretory granule, granular duct Slight Finding Comment : unilateral : right		
Heart	Findings : Finding present Infiltration, inflammatory cell, focal Slight		
Urinary bladder	Findings : Finding present Vacuolation, urothelium Mild		
Epididymis	Findings : Finding present Granuloma, spermatic Slight Finding Comment : bilateral Cribriform change Slight Finding Comment : bilateral Decrease, spermatozoa Slight Finding Comment : bilateral		
Sciatic nerve	Findings : Finding present Degeneration, axonal, focal Slight		
Femur	Findings : Finding present Increase, trabecular Slight		
Finding absent :	Lung, Nasal cavity, Bronchus, Trachea, Tongue, Sublingual gland, Esophagus, Stomach, Duodenum, Jejunum, Ileum, Cecum, Colon, Rectum, Pancreas, Liver, Thoracic aorta, Kidney, Testis, Prostate, Seminal vesicle, Coagulating gland, Cerebrum, Cerebellum, Spinal cord, Spleen, Thymus, Bone marrow, sternum, Bone marrow, femur, Submandibular lymph node, Mesenteric lymph node, Peyer's patch, Pituitary gland, Thyroid, Parathyroid, Adrenal, Eyeball, Harderian gland, Zymbal's gland, Skeletal muscle, Sternum, Skin, Mammary gland		

Histopathological findings		Stage : Day 91	Species : Rat
Sex : Male			
Test article : 4-methylbenzaldehyde	Dose : 1000 mg/kg	Animal No. : 10403	
Stomach			
Findings : Finding present			
Hyperkeratosis, forestomach			
Slight			
Kidney			
Findings : Finding present			
Basophilic change, renal tubule, focal			
Slight			
Finding Comment : unilateral : left			
Urinary bladder			
Findings : Finding present			
Vacuolation, urothelium			
Slight			
Epididymis			
Findings : Finding present			
Granuloma, spermatic			
Slight			
Finding Comment : bilateral			
Cribriform change			
Slight			
Finding Comment : bilateral			
Decrease, spermatozoa			
Slight			
Finding Comment : bilateral			
Sternum			
Findings : Finding present			
Increase, trabecular			
Slight			
Femur			
Findings : Finding present			
Increase, trabecular			
Slight			
Finding absent : Lung, Nasal cavity, Bronchus, Trachea, Tongue, Submandibular gland, Sublingual gland, Esophagus, Duodenum, Jejunum, Ileum, Cecum, Colon, Rectum, Pancreas, Liver, Heart, Thoracic aorta, Testis, Prostate, Seminal vesicle, Coagulating gland, Cerebrum, Cerebellum, Spinal cord, Sciatic nerve, Spleen, Thymus, Bone marrow, sternum, Bone marrow, femur, Submandibular lymph node, Mesenteric lymph node, Peyer's patch, Pituitary gland, Thyroid, Parathyroid, Adrenal, Eyeball, Harderian gland, Zymbal's gland, Skeletal muscle, Skin, Mammary gland			

Histopathological findings		Stage : Day 91	Species : Rat
Sex : Male			
Test article : 4-methylbenzaldehyde	Dose : 1000 mg/kg	Animal No. : 10404	
Nasal cavity			
Findings : Finding present			
Mineralization			
Slight			
Submandibular gland			
Findings : Finding present			
Decrease, secretory granule, granular duct			
Slight			
Finding Comment : bilateral			
Stomach			
Findings : Finding present			
Hyperkeratosis, limiting ridge			
Slight			
Heart			
Findings : Finding present			
Infiltration, inflammatory cell, focal			
Mild			
Kidney			
Findings : Finding present			
Vacuolation, renal pelvic mucosa			
Slight			
Finding Comment : unilateral : right			
Urinary bladder			
Findings : Finding present			
Vacuolation, urothelium			
Mild			
Epididymis			
Findings : Finding present			
Cribriform change			
Slight			
Finding Comment : bilateral			
Decrease, spermatozoa			
Slight			
Finding Comment : bilateral			
Sciatic nerve			
Findings : Finding present			
Degeneration, axonal, focal			
Slight			
Finding absent : Lung, Bronchus, Trachea, Tongue, Sublingual gland, Esophagus, Duodenum, Jejunum, Ileum, Cecum, Colon, Rectum, Pancreas, Liver, Thoracic aorta, Testis, Prostate, Seminal vesicle, Coagulating gland, Cerebrum, Cerebellum, Spinal cord, Spleen, Thymus, Bone marrow, sternum, Bone marrow, femur, Submandibular lymph node, Mesenteric lymph node, Peyer's patch, Pituitary gland, Thyroid, Parathyroid, Adrenal, Eyeball, Harderian gland, Zymbal's gland, Skeletal muscle, Sternum,			

Histopathological findings		Stage : Day 91	Species : Rat
Sex : Male			
Test article : 4-methylbenzaldehyde	Dose : 1000 mg/kg	Animal No. : 10404	
Finding absent : Femur, Skin, Mammary gland			
Test article : 4-methylbenzaldehyde	Dose : 1000 mg/kg	Animal No. : 10405	
Kidney			
Findings : Finding present			
Vacuolation, renal pelvic mucosa			
Slight			
Finding Comment : unilateral : left			
Urinary bladder			
Findings : Finding present			
Vacuolation, urothelium			
Slight			
Epididymis			
Findings : Finding present			
Granuloma, spermatic			
Slight			
Finding Comment : unilateral : left			
Cribriform change			
Slight			
Finding Comment : bilateral			
Decrease, spermatozoa			
Slight			
Finding Comment : bilateral			
Sciatic nerve			
Findings : Finding present			
Degeneration, axonal, focal			
Slight			
Skeletal muscle			
Findings : Finding present			
Degeneration, muscular, focal			
Slight			
Femur			
Findings : Finding present			
Increase, trabecular			
Slight			
Finding absent : Lung, Nasal cavity, Bronchus, Trachea, Tongue, Submandibular gland, Sublingual gland, Esophagus, Stomach, Duodenum, Jejunum, Ileum, Cecum, Colon, Rectum, Pancreas, Liver, Heart, Thoracic aorta, Testis, Prostate, Seminal vesicle, Coagulating gland, Cerebrum, Cerebellum, Spinal cord, Spleen, Thymus, Bone marrow, sternum, Bone marrow, femur, Submandibular lymph node, Mesenteric lymph node, Peyer's patch, Pituitary gland, Thyroid, Parathyroid, Adrenal, Eyeball, Harderian gland, Zymbal's gland, Sternum, Skin, Mammary gland			

Histopathological findings		Stage : Day 91	Species : Rat
Sex : Male			
Test article : 4-methylbenzaldehyde	Dose : 1000 mg/kg	Animal No. : 10406	
Heart	Findings : Finding present Infiltration, inflammatory cell, focal Slight		
Urinary bladder	Findings : Finding present Vacuolation, urothelium Slight		
Testis	Findings : Finding present Degeneration, seminiferous tubule Slight Finding Comment : unilateral : right		
Epididymis	Findings : Finding present Cribriform change Slight Finding Comment : bilateral Decrease, spermatozoa Slight Finding Comment : bilateral		
Pituitary gland	Findings : Finding present Remnant, craniopharyngeal duct Mild		
Sternum	Findings : Finding present Increase, trabecular Slight		
Femur	Findings : Finding present Increase, trabecular Slight		
Finding absent :	Lung, Nasal cavity, Bronchus, Trachea, Tongue, Submandibular gland, Sublingual gland, Esophagus, Stomach, Duodenum, Jejunum, Ileum, Cecum, Colon, Rectum, Pancreas, Liver, Thoracic aorta, Kidney, Prostate, Seminal vesicle, Coagulating gland, Cerebrum, Cerebellum, Spinal cord, Sciatic nerve, Spleen, Thymus, Bone marrow, sternum, Bone marrow, femur, Submandibular lymph node, Mesenteric lymph node, Peyer's patch, Thyroid, Parathyroid, Adrenal, Eyeball, Harderian gland, Zymbal's gland, Skeletal muscle, Skin, Mammary gland		

Histopathological findings		Stage : Day 91	Species : Rat
Sex : Male			
Test article : 4-methylbenzaldehyde	Dose : 1000 mg/kg	Animal No. : 10407	
Submandibular gland			
Findings : Finding present			
Decrease, secretory granule, granular duct			
Slight			
Finding Comment : unilateral : left			
Stomach			
Findings : Finding present			
Hyperkeratosis, limiting ridge			
Slight			
Kidney			
Findings : Finding present			
Infiltration, inflammatory cell, interstitium, focal			
Slight			
Finding Comment : unilateral : left			
Urinary bladder			
Findings : Finding present			
Vacuolation, urothelium			
Slight			
Epididymis			
Findings : Finding present			
Granuloma, spermatic			
Slight			
Finding Comment : bilateral			
Cribriform change			
Slight			
Finding Comment : bilateral			
Decrease, spermatozoa			
Slight			
Finding Comment : bilateral			
Sciatic nerve			
Findings : Finding present			
Degeneration, axonal, focal			
Slight			
Sternum			
Findings : Finding present			
Increase, trabecular			
Slight			
Finding absent :	Lung, Nasal cavity, Bronchus, Trachea, Tongue, Sublingual gland, Esophagus, Duodenum, Jejunum, Ileum, Cecum, Colon, Rectum, Pancreas, Liver, Heart, Thoracic aorta, Testis, Prostate, Seminal vesicle, Coagulating gland, Cerebrum, Cerebellum, Spinal cord, Spleen, Thymus, Bone marrow, sternum, Bone marrow, femur, Submandibular lymph node, Mesenteric lymph node, Peyer's patch, Pituitary gland, Thyroid, Parathyroid, Adrenal, Eyeball, Harderian gland, Zymbal's gland, Skeletal muscle, Femur, Skin, Mammary gland		

Histopathological findings		Stage : Day 91	Species : Rat
Sex : Male			
Test article : 4-methylbenzaldehyde	Dose : 1000 mg/kg	Animal No. : 10408	
Submandibular gland			
Findings : Finding present			
Decrease, secretory granule, granular duct			
Slight			
Finding Comment : unilateral : right			
Stomach			
Findings : Finding present			
Hyperkeratosis, forestomach			
Slight			
Heart			
Findings : Finding present			
Infiltration, inflammatory cell, focal			
Slight			
Urinary bladder			
Findings : Finding present			
Vacuolation, urothelium			
Slight			
Epididymis			
Findings : Finding present			
Granuloma, spermatic			
Slight			
Finding Comment : bilateral			
Cribriform change			
Slight			
Finding Comment : bilateral			
Decrease, spermatozoa			
Slight			
Finding Comment : bilateral			
Sciatic nerve			
Findings : Finding present			
Degeneration, axonal, focal			
Slight			
Peyer's patch			
Findings : Finding present			
Mineralization			
Slight			
Skeletal muscle			
Findings : Finding present			
Degeneration, muscular, focal			
Slight			

Histopathological findings			Stage : Day 91	Species : Rat
Sex : Male				
Test article : 4-methylbenzaldehyde	Dose : 1000 mg/kg	Animal No. : 10408		
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Sternum				
Findings : Finding present				
Increase, trabecular				
Slight				
Finding absent :				
Lung, Nasal cavity, Bronchus, Trachea, Tongue, Sublingual gland, Esophagus, Duodenum, Jejunum, Ileum, Cecum, Colon, Rectum, Pancreas, Liver, Thoracic aorta, Kidney, Testis, Prostate, Seminal vesicle, Coagulating gland, Cerebrum, Cerebellum, Spinal cord, Spleen, Thymus, Bone marrow, sternum, Bone marrow, femur, Submandibular lymph node, Mesenteric lymph node, Pituitary gland, Thyroid, Parathyroid, Adrenal, Eyeball, Harderian gland, Zymbal's gland, Femur, Skin, Mammary gland				
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Histopathological findings

Sex : Male

Stage : Day 91

Species : Rat

 Test article : 4-methylbenzaldehyde Dose : 1000 mg/kg Animal No. : 10409

Stomach

Findings : Finding present
Hyperkeratosis, limiting ridge
Slight

Urinary bladder

Findings : Finding present
Vacuolation, urothelium
Slight

Epididymis

Findings : Finding present
Granuloma, spermatic
Slight
Finding Comment : bilateral
Cribriform change
Slight
Finding Comment : bilateral
Decrease, spermatozoa
Slight
Finding Comment : bilateral

Prostate

Findings : Finding present
Infiltration, inflammatory cell
Mild

Peyer's patch

Findings : Finding present
Mineralization
Slight

Sternum

Findings : Finding present
Increase, trabecular
Slight

Finding absent : Lung, Nasal cavity, Bronchus, Trachea, Tongue, Submandibular gland, Sublingual gland, Esophagus, Duodenum, Jejunum, Ileum, Cecum, Colon, Rectum, Pancreas, Liver, Heart, Thoracic aorta, Kidney, Testis, Seminal vesicle, Coagulating gland, Cerebrum, Cerebellum, Spinal cord, Sciatic nerve, Spleen, Thymus, Bone marrow, sternum, Bone marrow, femur, Submandibular lymph node, Mesenteric lymph node, Pituitary gland, Thyroid, Parathyroid, Adrenal, Eyeball, Harderian gland, Zymbal's gland, Skeletal muscle, Femur, Skin, Mammary gland

Histopathological findings		Stage : Day 91	Species : Rat
Sex : Male	Dose : 1000 mg/kg	Animal No. : 10410	
Test article : 4-methylbenzaldehyde			
Stomach			
Findings : Finding present			
Hyperkeratosis, forestomach			
Slight			
Heart			
Findings : Finding present			
Infiltration, inflammatory cell, focal			
Slight			
Urinary bladder			
Findings : Finding present			
Vacuolation, urothelium			
Slight			
Epididymis			
Findings : Finding present			
Cribriform change			
Slight			
Finding Comment : bilateral			
Decrease, spermatozoa			
Slight			
Finding Comment : bilateral			
Sciatic nerve			
Findings : Finding present			
Degeneration, axonal, focal			
Slight			
Skeletal muscle			
Findings : Finding present			
Degeneration, muscular, focal			
Slight			
Sternum			
Findings : Finding present			
Increase, trabecular			
Slight			
Finding absent :			
Lung, Nasal cavity, Bronchus, Trachea, Tongue, Submandibular gland, Sublingual gland, Esophagus, Duodenum, Jejunum, Ileum, Cecum, Colon, Rectum, Pancreas, Liver, Thoracic aorta, Kidney, Testis, Prostate, Seminal vesicle, Coagulating gland, Cerebrum, Cerebellum, Spinal cord, Spleen, Thymus, Bone marrow, sternum, Bone marrow, femur, Submandibular lymph node, Mesenteric lymph node, Peyer's patch, Pituitary gland, Thyroid, Parathyroid, Adrenal, Eyeball, Harderian gland, Zymbal's gland, Femur, Skin, Mammary gland			

Histopathological findings		Stage : Day 91	Species : Rat
Sex : Female			
Test article : 4-methylbenzaldehyde	Dose : 0 mg/kg	Animal No. : 50151	
Lung			
Findings : Finding present			
Accumulation, macrophage, alveolar			
Slight			
Liver			
Findings : Finding present			
Microgranuloma			
Slight			
Kidney			
Findings : Finding present			
Mineralization, cortex			
Slight			
Finding Comment : unilateral : left			
Peyer's patch			
Findings : Finding present			
Mineralization			
Slight			
Finding absent : Nasal cavity, Bronchus, Trachea, Tongue, Submandibular gland, Sublingual gland, Esophagus, Stomach, Duodenum, Jejunum, Ileum, Cecum, Colon, Rectum, Pancreas, Heart, Thoracic aorta, Urinary bladder, Ovary, Oviduct, Uterine horn, Uterine cervix, Vagina, Cerebrum, Cerebellum, Spinal cord, Sciatic nerve, Spleen, Thymus, Bone marrow, sternum, Bone marrow, femur, Submandibular lymph node, Mesenteric lymph node, Pituitary gland, Thyroid, Parathyroid, Adrenal, Eyeball, Harderian gland, Zymbal's gland, Skeletal muscle, Sternum, Femur, Skin, Mammary gland			
Test article : 4-methylbenzaldehyde	Dose : 0 mg/kg	Animal No. : 50152	
Peyer's patch			
Findings : Finding present			
Mineralization			
Slight			
Thyroid			
Findings : Finding present			
Remnant, ultimobranchial body			
Slight			
Finding Comment : unilateral : right			
Eyeball			
Findings : Finding present			
Atrophy, retina, focal			
Slight			
Finding Comment : unilateral : right			
Finding absent : Lung, Nasal cavity, Bronchus, Trachea, Tongue, Submandibular gland, Sublingual gland, Esophagus, Stomach, Duodenum, Jejunum, Ileum, Cecum, Colon, Rectum, Pancreas, Liver, Heart, Thoracic aorta, Kidney, Urinary bladder, Ovary, Oviduct, Uterine horn, Uterine cervix, Vagina, Cerebrum, Cerebellum, Spinal cord, Sciatic nerve, Spleen, Thymus, Bone marrow, sternum, Bone marrow, femur, Submandibular lymph node, Mesenteric lymph node, Pituitary gland, Parathyroid, Adrenal, Harderian gland, Zymbal's gland, Skeletal muscle, Sternum, Femur, Skin, Mammary gland			

Histopathological findings		Stage : Day 91	Species : Rat
Sex : Female			
Test article : 4-methylbenzaldehyde	Dose : 0 mg/kg	Animal No. : 50153	
Thymus			
Findings : Finding present			
Remnant, epithelial cell			
Slight			
Thyroid			
Findings : Finding present			
Remnant, ultimobranchial body			
Slight			
Finding Comment : unilateral : right			
Finding absent : Lung, Nasal cavity, Bronchus, Trachea, Tongue, Submandibular gland, Sublingual gland, Esophagus, Stomach, Duodenum, Jejunum, Ileum, Cecum, Colon, Rectum, Pancreas, Liver, Heart, Thoracic aorta, Kidney, Urinary bladder, Ovary, Oviduct, Uterine horn, Uterine cervix, Vagina, Cerebrum, Cerebellum, Spinal cord, Sciatic nerve, Spleen, Bone marrow, sternum, Bone marrow, femur, Submandibular lymph node, Mesenteric lymph node, Peyer's patch, Pituitary gland, Parathyroid, Adrenal, Eyeball, Harderian gland, Zymbal's gland, Skeletal muscle, Sternum, Femur, Skin, Mammary gland			
Test article : 4-methylbenzaldehyde	Dose : 0 mg/kg	Animal No. : 50154	
Peyer's patch			
Findings : Finding present			
Mineralization			
Slight			
Finding absent : Lung, Nasal cavity, Bronchus, Trachea, Tongue, Submandibular gland, Sublingual gland, Esophagus, Stomach, Duodenum, Jejunum, Ileum, Cecum, Colon, Rectum, Pancreas, Liver, Heart, Thoracic aorta, Kidney, Urinary bladder, Ovary, Oviduct, Uterine horn, Uterine cervix, Vagina, Cerebrum, Cerebellum, Spinal cord, Sciatic nerve, Spleen, Thymus, Bone marrow, sternum, Bone marrow, femur, Submandibular lymph node, Mesenteric lymph node, Pituitary gland, Thyroid, Parathyroid, Adrenal, Eyeball, Harderian gland, Zymbal's gland, Skeletal muscle, Sternum, Femur, Skin, Mammary gland			
Test article : 4-methylbenzaldehyde	Dose : 0 mg/kg	Animal No. : 50155	
Liver			
Findings : Finding present			
Microgranuloma			
Slight			
Finding absent : Lung, Nasal cavity, Bronchus, Trachea, Tongue, Submandibular gland, Sublingual gland, Esophagus, Stomach, Duodenum, Jejunum, Ileum, Cecum, Colon, Rectum, Pancreas, Heart, Thoracic aorta, Kidney, Urinary bladder, Ovary, Oviduct, Uterine horn, Uterine cervix, Vagina, Cerebrum, Cerebellum, Spinal cord, Sciatic nerve, Spleen, Thymus, Bone marrow, sternum, Bone marrow, femur, Submandibular lymph node, Mesenteric lymph node, Peyer's patch, Pituitary gland, Thyroid, Parathyroid, Adrenal, Eyeball, Harderian gland, Zymbal's gland, Skeletal muscle, Sternum, Femur, Skin, Mammary gland			

Histopathological findings		Stage : Day 91	Species : Rat
Sex : Female			
Test article : 4-methylbenzaldehyde	Dose : 0 mg/kg	Animal No. : 50156	
Liver			
Findings : Finding present			
Microgranuloma			
Slight			
Kidney			
Findings : Finding present			
Infiltration, inflammatory cell, renal pelvic mucosa			
Slight			
Finding Comment : unilateral : right			
Finding absent : Lung, Nasal cavity, Bronchus, Trachea, Tongue, Submandibular gland, Sublingual gland, Esophagus, Stomach, Duodenum, Jejunum, Ileum, Cecum, Colon, Rectum, Pancreas, Heart, Thoracic aorta, Urinary bladder, Ovary, Oviduct, Uterine horn, Uterine cervix, Vagina, Cerebrum, Cerebellum, Spinal cord, Sciatic nerve, Spleen, Thymus, Bone marrow, sternum, Bone marrow, femur, Submandibular lymph node, Mesenteric lymph node, Peyer's patch, Pituitary gland, Thyroid, Parathyroid, Adrenal, Eyeball, Harderian gland, Zymbal's gland, Skeletal muscle, Sternum, Femur, Skin, Mammary gland			
Test article : 4-methylbenzaldehyde	Dose : 0 mg/kg	Animal No. : 50157	
Lung			
Findings : Finding present			
Accumulation, macrophage, alveolar			
Slight			
Peyer's patch			
Findings : Finding present			
Mineralization			
Slight			
Thyroid			
Findings : Finding present			
Remnant, ultimobranchial body			
Slight			
Finding Comment : unilateral : left			
Finding absent : Nasal cavity, Bronchus, Trachea, Tongue, Submandibular gland, Sublingual gland, Esophagus, Stomach, Duodenum, Jejunum, Ileum, Cecum, Colon, Rectum, Pancreas, Liver, Heart, Thoracic aorta, Kidney, Urinary bladder, Ovary, Oviduct, Uterine horn, Uterine cervix, Vagina, Cerebrum, Cerebellum, Spinal cord, Sciatic nerve, Spleen, Thymus, Bone marrow, sternum, Bone marrow, femur, Submandibular lymph node, Mesenteric lymph node, Pituitary gland, Parathyroid, Adrenal, Eyeball, Harderian gland, Zymbal's gland, Skeletal muscle, Sternum, Femur, Skin, Mammary gland			

Histopathological findings		Stage : Day 91	Species : Rat
Sex : Female			
Test article : 4-methylbenzaldehyde	Dose : 0 mg/kg	Animal No. : 50158	
Thyroid			
Findings : Finding present			
Remnant, ultimobranchial body			
Slight			
Finding Comment : unilateral : right			
Finding absent : Lung, Nasal cavity, Bronchus, Trachea, Tongue, Submandibular gland, Sublingual gland, Esophagus, Stomach, Duodenum, Jejunum, Ileum, Cecum, Colon, Rectum, Pancreas, Liver, Heart, Thoracic aorta, Kidney, Urinary bladder, Ovary, Oviduct, Uterine horn, Uterine cervix, Vagina, Cerebrum, Cerebellum, Spinal cord, Sciatic nerve, Spleen, Thymus, Bone marrow, sternum, Bone marrow, femur, Submandibular lymph node, Mesenteric lymph node, Peyer's patch, Pituitary gland, Parathyroid, Adrenal, Eyeball, Harderian gland, Zymbal's gland, Skeletal muscle, Sternum, Femur, Skin, Mammary gland			
Test article : 4-methylbenzaldehyde	Dose : 0 mg/kg	Animal No. : 50159	
Heart			
Findings : Finding present			
Infiltration, inflammatory cell, focal			
Slight			
Finding absent : Lung, Nasal cavity, Bronchus, Trachea, Tongue, Submandibular gland, Sublingual gland, Esophagus, Stomach, Duodenum, Jejunum, Ileum, Cecum, Colon, Rectum, Pancreas, Liver, Thoracic aorta, Kidney, Urinary bladder, Ovary, Oviduct, Uterine horn, Uterine cervix, Vagina, Cerebrum, Cerebellum, Spinal cord, Sciatic nerve, Spleen, Thymus, Bone marrow, sternum, Bone marrow, femur, Submandibular lymph node, Mesenteric lymph node, Peyer's patch, Pituitary gland, Thyroid, Parathyroid, Adrenal, Eyeball, Harderian gland, Zymbal's gland, Skeletal muscle, Sternum, Femur, Skin, Mammary gland			
Test article : 4-methylbenzaldehyde	Dose : 0 mg/kg	Animal No. : 50160	
Heart			
Findings : Finding present			
Infiltration, inflammatory cell, focal			
Slight			
Thymus			
Findings : Finding present			
Remnant, epithelial cell			
Slight			
Eyeball			
Findings : Finding present			
Dysplasia, retina			
Slight			
Finding Comment : unilateral : right			
Finding absent : Lung, Nasal cavity, Bronchus, Trachea, Tongue, Submandibular gland, Sublingual gland, Esophagus, Stomach, Duodenum, Jejunum, Ileum, Cecum, Colon, Rectum, Pancreas, Liver, Thoracic aorta, Kidney, Urinary bladder, Ovary, Oviduct, Uterine horn, Uterine cervix, Vagina, Cerebrum, Cerebellum, Spinal cord, Sciatic nerve, Spleen, Bone marrow, sternum, Bone marrow, femur, Submandibular lymph node, Mesenteric lymph node, Peyer's patch, Pituitary gland, Thyroid, Parathyroid, Adrenal, Harderian gland, Zymbal's gland, Skeletal muscle, Sternum, Femur, Skin, Mammary gland			

Histopathological findings		Stage : Day 91	Species : Rat
Sex : Female			
Test article : 4-methylbenzaldehyde	Dose : 100 mg/kg	Animal No. : 50251	
Finding absent :	Submandibular gland, Sublingual gland, Stomach, Kidney, Urinary bladder, Sciatic nerve, Skeletal muscle, Sternum, Femur		
Test article : 4-methylbenzaldehyde	Dose : 100 mg/kg	Animal No. : 50252	
Finding absent :	Submandibular gland, Sublingual gland, Stomach, Kidney, Urinary bladder, Sciatic nerve, Skeletal muscle, Sternum, Femur		
Test article : 4-methylbenzaldehyde	Dose : 100 mg/kg	Animal No. : 50253	
Finding absent :	Submandibular gland, Sublingual gland, Stomach, Kidney, Urinary bladder, Sciatic nerve, Skeletal muscle, Sternum, Femur		
Test article : 4-methylbenzaldehyde	Dose : 100 mg/kg	Animal No. : 50254	
Finding absent :	Submandibular gland, Sublingual gland, Stomach, Kidney, Urinary bladder, Sciatic nerve, Skeletal muscle, Sternum, Femur		
Test article : 4-methylbenzaldehyde	Dose : 100 mg/kg	Animal No. : 50255	
Finding absent :	Submandibular gland, Sublingual gland, Stomach, Kidney, Urinary bladder, Sciatic nerve, Skeletal muscle, Sternum, Femur		
Test article : 4-methylbenzaldehyde	Dose : 100 mg/kg	Animal No. : 50256	
Finding absent :	Submandibular gland, Sublingual gland, Stomach, Kidney, Urinary bladder, Sciatic nerve, Skeletal muscle, Sternum, Femur		
Test article : 4-methylbenzaldehyde	Dose : 100 mg/kg	Animal No. : 50257	
Finding absent :	Submandibular gland, Sublingual gland, Stomach, Kidney, Urinary bladder, Sciatic nerve, Skeletal muscle, Sternum, Femur		
Test article : 4-methylbenzaldehyde	Dose : 100 mg/kg	Animal No. : 50258	
Finding absent :	Submandibular gland, Sublingual gland, Stomach, Kidney, Urinary bladder, Sciatic nerve, Skeletal muscle, Sternum, Femur		
Test article : 4-methylbenzaldehyde	Dose : 100 mg/kg	Animal No. : 50259	
Finding absent :	Submandibular gland, Sublingual gland, Stomach, Kidney, Urinary bladder, Sciatic nerve, Skeletal muscle, Sternum, Femur		
Test article : 4-methylbenzaldehyde	Dose : 100 mg/kg	Animal No. : 50260	
Finding absent :	Submandibular gland, Sublingual gland, Stomach, Kidney, Urinary bladder, Sciatic nerve, Skeletal muscle, Sternum, Femur		

Histopathological findings		Stage : Day 91	Species : Rat
Sex : Female			
Test article : 4-methylbenzaldehyde	Dose : 300 mg/kg	Animal No. : 50351	
Finding absent : Submandibular gland, Sublingual gland, Stomach, Kidney, Urinary bladder, Sciatic nerve, Skeletal muscle, Sternum, Femur			
Test article : 4-methylbenzaldehyde	Dose : 300 mg/kg	Animal No. : 50352	
Finding absent : Submandibular gland, Sublingual gland, Stomach, Kidney, Urinary bladder, Sciatic nerve, Skeletal muscle, Sternum, Femur			
Test article : 4-methylbenzaldehyde	Dose : 300 mg/kg	Animal No. : 50353	
Finding absent : Submandibular gland, Sublingual gland, Stomach, Kidney, Urinary bladder, Sciatic nerve, Skeletal muscle, Sternum, Femur			
Test article : 4-methylbenzaldehyde	Dose : 300 mg/kg	Animal No. : 50354	
Finding absent : Submandibular gland, Sublingual gland, Stomach, Kidney, Urinary bladder, Sciatic nerve, Skeletal muscle, Sternum, Femur			
Test article : 4-methylbenzaldehyde	Dose : 300 mg/kg	Animal No. : 50355	
Finding absent : Submandibular gland, Sublingual gland, Stomach, Kidney, Urinary bladder, Sciatic nerve, Skeletal muscle, Sternum, Femur			
Test article : 4-methylbenzaldehyde	Dose : 300 mg/kg	Animal No. : 50356	
Finding absent : Submandibular gland, Sublingual gland, Stomach, Kidney, Urinary bladder, Sciatic nerve, Skeletal muscle, Sternum, Femur			
Test article : 4-methylbenzaldehyde	Dose : 300 mg/kg	Animal No. : 50357	
Finding absent : Submandibular gland, Sublingual gland, Stomach, Kidney, Urinary bladder, Sciatic nerve, Skeletal muscle, Sternum, Femur			
Test article : 4-methylbenzaldehyde	Dose : 300 mg/kg	Animal No. : 50358	
Finding absent : Submandibular gland, Sublingual gland, Stomach, Kidney, Urinary bladder, Sciatic nerve, Skeletal muscle, Sternum, Femur			
Test article : 4-methylbenzaldehyde	Dose : 300 mg/kg	Animal No. : 50359	
Kidney			
Findings : Finding present			
Basophilic change, renal tubule, focal			
Slight			
Finding Comment : bilateral			
Finding absent : Submandibular gland, Sublingual gland, Stomach, Urinary bladder, Sciatic nerve, Skeletal muscle, Sternum, Femur			
Test article : 4-methylbenzaldehyde	Dose : 300 mg/kg	Animal No. : 50360	
Finding absent : Submandibular gland, Sublingual gland, Stomach, Kidney, Urinary bladder, Sciatic nerve, Skeletal muscle, Sternum, Femur			

Histopathological findings		Stage : Day 91	Species : Rat
Sex : Female			
Test article : 4-methylbenzaldehyde	Dose : 1000 mg/kg	Animal No. : 50451	
Urinary bladder			
Findings : Finding present			
Vacuolation, urothelium			
Mild			
Sternum			
Findings : Finding present			
Increase, trabecular			
Slight			
Femur			
Findings : Finding present			
Increase, trabecular			
Slight			
Finding absent : Lung, Nasal cavity, Bronchus, Trachea, Tongue, Submandibular gland, Sublingual gland, Esophagus, Stomach, Duodenum, Jejunum, Ileum, Cecum, Colon, Rectum, Pancreas, Liver, Heart, Thoracic aorta, Kidney, Ovary, Oviduct, Uterine horn, Uterine cervix, Vagina, Cerebrum, Cerebellum, Spinal cord, Sciatic nerve, Spleen, Thymus, Bone marrow, sternum, Bone marrow, femur, Submandibular lymph node, Mesenteric lymph node, Peyer's patch, Pituitary gland, Thyroid, Parathyroid, Adrenal, Eyeball, Harderian gland, Zymbal's gland, Skeletal muscle, Skin, Mammary gland			
Test article : 4-methylbenzaldehyde	Dose : 1000 mg/kg	Animal No. : 50452	
Urinary bladder			
Findings : Finding present			
Vacuolation, urothelium			
Mild			
Sciatic nerve			
Findings : Finding present			
Degeneration, axonal, focal			
Slight			
Finding absent : Lung, Nasal cavity, Bronchus, Trachea, Tongue, Submandibular gland, Sublingual gland, Esophagus, Stomach, Duodenum, Jejunum, Ileum, Cecum, Colon, Rectum, Pancreas, Liver, Heart, Thoracic aorta, Kidney, Ovary, Oviduct, Uterine horn, Uterine cervix, Vagina, Cerebrum, Cerebellum, Spinal cord, Spleen, Thymus, Bone marrow, sternum, Bone marrow, femur, Submandibular lymph node, Mesenteric lymph node, Peyer's patch, Pituitary gland, Thyroid, Parathyroid, Adrenal, Eyeball, Harderian gland, Zymbal's gland, Skeletal muscle, Sternum, Femur, Skin, Mammary gland			

Histopathological findings

Sex : Female

Stage : Day 91

Species : Rat

 Test article : 4-methylbenzaldehyde Dose : 1000 mg/kg Animal No. : 50453

Kidney

Findings : Finding present

Vacuolation, renal pelvic mucosa

Slight

Finding Comment : bilateral

Urinary bladder

Findings : Finding present

Vacuolation, urothelium

Slight

Thyroid

Findings : Finding present

Remnant, ultimobranchial body

Slight

Finding Comment : unilateral : left

Sternum

Findings : Finding present

Increase, trabecular

Slight

Femur

Findings : Finding present

Increase, trabecular

Slight

 Finding absent : Lung, Nasal cavity, Bronchus, Trachea, Tongue, Submandibular gland, Sublingual gland, Esophagus, Stomach, Duodenum, Jejunum, Ileum, Cecum, Colon, Rectum, Pancreas, Liver, Heart, Thoracic aorta, Ovary, Oviduct, Uterine horn, Uterine cervix, Vagina, Cerebrum, Cerebellum, Spinal cord, Sciatic nerve, Spleen, Thymus, Bone marrow, sternum, Bone marrow, femur, Submandibular lymph node, Mesenteric lymph node, Peyer's patch, Pituitary gland, Parathyroid, Adrenal, Eyeball, Harderian gland, Zymbal's gland, Skeletal muscle, Skin, Mammary gland

Histopathological findings		Stage : Day 91	Species : Rat
Sex : Female			
Test article : 4-methylbenzaldehyde	Dose : 1000 mg/kg	Animal No. : 50454	
Stomach			
Findings : Finding present			
Hyperkeratosis, forestomach			
Slight			
Sciatic nerve			
Findings : Finding present			
Degeneration, axonal, focal			
Slight			
Thyroid			
Findings : Finding present			
Remnant, ultimobranchial body			
Slight			
Finding Comment : bilateral			
Parathyroid			
Findings : Finding absent			
Animal Comment : right parathyroid : missing			
Skeletal muscle			
Findings : Finding present			
Degeneration, muscular, focal			
Slight			
Sternum			
Findings : Finding present			
Increase, trabecular			
Slight			
Femur			
Findings : Finding present			
Increase, trabecular			
Slight			
Finding absent :			
Lung, Nasal cavity, Bronchus, Trachea, Tongue, Submandibular gland, Sublingual gland, Esophagus, Duodenum, Jejunum, Ileum, Cecum, Colon, Rectum, Pancreas, Liver, Heart, Thoracic aorta, Kidney, Urinary bladder, Ovary, Oviduct, Uterine horn, Uterine cervix, Vagina, Cerebrum, Cerebellum, Spinal cord, Spleen, Thymus, Bone marrow, sternum, Bone marrow, femur, Submandibular lymph node, Mesenteric lymph node, Peyer's patch, Pituitary gland, Adrenal, Eyeball, Harderian gland, Zymbal's gland, Skin, Mammary gland			

Histopathological findings		Stage : Day 91	Species : Rat
Sex : Female			
Test article : 4-methylbenzaldehyde	Dose : 1000 mg/kg	Animal No. : 50455	
Heart	Findings : Finding present Infiltration, inflammatory cell, focal Slight		
Urinary bladder	Findings : Finding present Vacuolation, urothelium Slight		
Sciatic nerve	Findings : Finding present Degeneration, axonal, focal Slight		
Thyroid	Findings : Finding present Remnant, ultimobranchial body Slight Finding Comment : unilateral : right		
Femur	Findings : Finding present Increase, trabecular Slight		
Finding absent :	Lung, Nasal cavity, Bronchus, Trachea, Tongue, Submandibular gland, Sublingual gland, Esophagus, Stomach, Duodenum, Jejunum, Ileum, Cecum, Colon, Rectum, Pancreas, Liver, Thoracic aorta, Kidney, Ovary, Oviduct, Uterine horn, Uterine cervix, Vagina, Cerebrum, Cerebellum, Spinal cord, Spleen, Thymus, Bone marrow, sternum, Bone marrow, femur, Submandibular lymph node, Mesenteric lymph node, Peyer's patch, Pituitary gland, Parathyroid, Adrenal, Eyeball, Harderian gland, Zymbal's gland, Skeletal muscle, Sternum, Skin, Mammary gland		

Histopathological findings

Sex : Female

Stage : Day 91

Species : Rat

 Test article : 4-methylbenzaldehyde Dose : 1000 mg/kg Animal No. : 50456

Urinary bladder

 Findings : Finding present
 Vacuolation, urothelium
 Mild

Sciatic nerve

 Findings : Finding present
 Degeneration, axonal, focal
 Slight

Skeletal muscle

 Findings : Finding present
 Degeneration, muscular, focal
 Slight

Sternum

 Findings : Finding present
 Increase, trabecular
 Slight

Femur

 Findings : Finding present
 Increase, trabecular
 Slight

 Finding absent : Lung, Nasal cavity, Bronchus, Trachea, Tongue, Submandibular gland, Sublingual gland, Esophagus, Stomach, Duodenum, Jejunum, Ileum, Cecum, Colon, Rectum, Pancreas, Liver, Heart, Thoracic aorta, Kidney, Ovary, Oviduct, Uterine horn, Uterine cervix, Vagina, Cerebrum, Cerebellum, Spinal cord, Spleen, Thymus, Bone marrow, sternum, Bone marrow, femur, Submandibular lymph node, Mesenteric lymph node, Peyer's patch, Pituitary gland, Thyroid, Parathyroid, Adrenal, Eyeball, Harderian gland, Zymbal's gland, Skin, Mammary gland

Histopathological findings

Sex : Female

Stage : Day 91

Species : Rat

 Test article : 4-methylbenzaldehyde Dose : 1000 mg/kg Animal No. : 50457

Urinary bladder

 Findings : Finding present
 Vacuolation, urothelium
 Slight

Sciatic nerve

 Findings : Finding present
 Degeneration, axonal, focal
 Slight

Thyroid

 Findings : Finding present
 Remnant, ultimobranchial body
 Slight
 Finding Comment : unilateral : left

Sternum

 Findings : Finding present
 Increase, trabecular
 Slight

Femur

 Findings : Finding present
 Increase, trabecular
 Slight

 Finding absent : Lung, Nasal cavity, Bronchus, Trachea, Tongue, Submandibular gland, Sublingual gland, Esophagus, Stomach, Duodenum, Jejunum, Ileum, Cecum, Colon, Rectum, Pancreas, Liver, Heart, Thoracic aorta, Kidney, Ovary, Oviduct, Uterine horn, Uterine cervix, Vagina, Cerebrum, Cerebellum, Spinal cord, Spleen, Thymus, Bone marrow, sternum, Bone marrow, femur, Submandibular lymph node, Mesenteric lymph node, Peyer's patch, Pituitary gland, Parathyroid, Adrenal, Eyeball, Harderian gland, Zymbal's gland, Skeletal muscle, Skin, Mammary gland

Histopathological findings		Stage : Day 91	Species : Rat
Sex : Female			
Test article : 4-methylbenzaldehyde	Dose : 1000 mg/kg	Animal No. : 50458	
Lung	Findings : Finding present Hemorrhage, focal Slight Finding Comment : left lobe		
Urinary bladder	Findings : Finding present Vacuolation, urothelium Slight		
Thymus	Findings : Finding present Remnant, epithelial cell Slight		
Submandibular lymph node	Findings : Finding present Absorption, blood Slight Finding Comment : bilateral		
Mesenteric lymph node	Findings : Finding present Absorption, blood Slight		
Thyroid	Findings : Finding present Remnant, ultimobranchial body Slight Finding Comment : unilateral : right		
Femur	Findings : Finding present Increase, trabecular Slight		
Finding absent :	Nasal cavity, Bronchus, Trachea, Tongue, Submandibular gland, Sublingual gland, Esophagus, Stomach, Duodenum, Jejunum, Ileum, Cecum, Colon, Rectum, Pancreas, Liver, Heart, Thoracic aorta, Kidney, Ovary, Oviduct, Uterine horn, Uterine cervix, Vagina, Cerebrum, Cerebellum, Spinal cord, Sciatic nerve, Spleen, Bone marrow, sternum, Bone marrow, femur, Peyer's patch, Pituitary gland, Parathyroid, Adrenal, Eyeball, Harderian gland, Zymbal's gland, Skeletal muscle, Sternum, Skin, Mammary gland		

Histopathological findings		Stage : Day 91	Species : Rat
Sex : Female			
Test article : 4-methylbenzaldehyde	Dose : 1000 mg/kg	Animal No. : 50459	
Submandibular gland			
Findings : Finding present			
Decrease, secretory granule, granular duct			
Slight			
Finding Comment : unilateral : left			
Stomach			
Findings : Finding present			
Hyperkeratosis, forestomach			
Slight			
Liver			
Findings : Finding present			
Microgranuloma			
Slight			
Heart			
Findings : Finding present			
Infiltration, inflammatory cell, focal			
Slight			
Urinary bladder			
Findings : Finding present			
Vacuolation, urothelium			
Slight			
Skeletal muscle			
Findings : Finding present			
Degeneration, muscular, focal			
Slight			
Femur			
Findings : Finding present			
Increase, trabecular			
Slight			
Finding absent :	Lung, Nasal cavity, Bronchus, Trachea, Tongue, Sublingual gland, Esophagus, Duodenum, Jejunum, Ileum, Cecum, Colon, Rectum, Pancreas, Thoracic aorta, Kidney, Ovary, Oviduct, Uterine horn, Uterine cervix, Vagina, Cerebrum, Cerebellum, Spinal cord, Sciatic nerve, Spleen, Thymus, Bone marrow, sternum, Bone marrow, femur, Submandibular lymph node, Mesenteric lymph node, Peyer's patch, Pituitary gland, Thyroid, Parathyroid, Adrenal, Eyeball, Harderian gland, Zymbal's gland, Sternum, Skin, Mammary gland		

Histopathological findings		Stage : Day 91	Species : Rat
Sex : Female			
Test article : 4-methylbenzaldehyde	Dose : 1000 mg/kg	Animal No. : 50460	
Stomach			
Findings : Finding present			
Hyperkeratosis, forestomach			
Slight			
Urinary bladder			
Findings : Finding present			
Vacuolation, urothelium			
Slight			
Femur			
Findings : Finding present			
Increase, trabecular			
Slight			
Finding absent :	Lung, Nasal cavity, Bronchus, Trachea, Tongue, Submandibular gland, Sublingual gland, Esophagus, Duodenum, Jejunum, Ileum, Cecum, Colon, Rectum, Pancreas, Liver, Heart, Thoracic aorta, Kidney, Ovary, Oviduct, Uterine horn, Uterine cervix, Vagina, Cerebrum, Cerebellum, Spinal cord, Sciatic nerve, Spleen, Thymus, Bone marrow, sternum, Bone marrow, femur, Submandibular lymph node, Mesenteric lymph node, Peyer's patch, Pituitary gland, Thyroid, Parathyroid, Adrenal, Eyeball, Harderian gland, Zymbal's gland, Skeletal muscle, Sternum, Skin, Mammary gland		

最終報告書

試験名

投与液中の4-メチルベンズアルデヒドの安定性試験

著者

試験終了日

試験施設

試験委託者

試験番号

試験実施証明書

試験番号：

試験名： 投与液中の 4-メチルベンズアルデヒドの安定性試験

この試験は、試験計画書およびSOPに基づいて実施し、またこの最終報告書は得られた生データに基づいて忠実に作成した。

試験施設：

試験責任者：

試験情報

試験番号：

試験名： 投与液中の 4-メチルベンズアルデヒドの安定性試験

報告書番号：

試験委託者：

試験施設：

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試験開始日：

実験開始日：

実験終了日：

試験終了日：

適用ガイドライン：なし

関連する試験： 試験番号 [redacted] : 4-メチルベンズアルデヒドのラットにおける 90 日間反復経口投与毒性試験

試験番号 [redacted] : 投与液中の 4-メチルベンズアルデヒドの分析法検討および分析法確認試験

試験資料保管： 本試験に関する全ての文書は、当試験施設の資料室に該当通知後 10 年間保管する。その後の保管場所については、試験委託者と協議して決定する。被験物質(保管用サンプル)は該当の通知後、10 年間または品質低下を起こさない期間のいずれか短い期間保管する。

SOP および試験計画書からの逸脱：

本試験において、SOP および試験計画書からの逸脱はなかった。

試験成績の信頼性に影響を及ぼしたと思われる環境要因：

本試験において、試験成績の信頼性に影響を及ぼしたと思われる環境要因はなかった。

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概要

[REDACTED]からの委託により、投与液中の4-メチルベンズアルデヒドの安定性試験を実施した。

[REDACTED]にFT-IR(ATR法)を用いて測定対象物質のIRスペクトルを測定し、公知スペクトル(Spectral Database for Organic Compounds)と比較した。両者のIRスペクトルは一致しており、測定対象物質の同一性を確認した。

投与液中の4-メチルベンズアルデヒドの安定性を確認するため、1 mg/mL および 200 mg/mL 模擬投与液を [REDACTED]に試験施設で調製し、HPLCを用いて調製直後の測定対象物質濃度を確認した。これら模擬投与液を遮光条件下での冷蔵8日間保存後、さらに室温6時間保存した。 [REDACTED]にHPLCを用いて保存後の測定対象物質濃度を確認した。調製直後および保存後の模擬投与液中の測定対象物質濃度を比較して、残存率を算出した結果、1 mg/mL 模擬投与液の残存率は97.0%、200 mg/mL 模擬投与液の残存率は97.9%であり、判定基準(100%±15%以内)を満たした。

以上の結果、投与液中の4-メチルベンズアルデヒドは調製後、遮光条件下で冷蔵保存8日間後、さらに室温保存6時間後まで安定であることを確認した。

試験委託者が実施する毒性試験(委託者試験番号 [REDACTED])における最終投与日以降の [REDACTED]に、測定対象物質のIRスペクトルを測定し、 [REDACTED]に測定したIRスペクトルと比較した。両者のIRスペクトルは一致しており、実験期間中の測定対象物質が安定であったことを確認した。

緒言

[REDACTED]からの委託により、投与液中の4-メチルベンズアルデヒドの安定性試験および4-メチルベンズアルデヒドの同一性確認・安定性確認を実施した。

実験材料および方法

1. 測定対象物質

名称:	4-メチルベンズアルデヒド
CAS No.:	104-87-0
分子式:	C ₈ H ₈ O
分子量:	120.14
純度:	98.2%以上
ロット番号:	[REDACTED]
入手先:	[REDACTED]
入手日:	[REDACTED]
入手量:	20.011 g
NCAS 検索番号:	STD-1558
保管状態:	褐色ガラス瓶中、冷蔵
保存条件:	冷暗所(1~10°C)、気密

2. 試薬および機器

トウモロコシ油：	試薬(Reagent)、ナカライテスク株式会社
アセトン：	特級、和光純薬工業(株)
アセトニトリル：	HPLC用、和光純薬工業(株)
超純水：	Milli-Q水・純水(Elix水)製造システム (Milli-Q Integral 3、日本ミリポア(株)) で製造した Milli-Q 水
天秤：	XP205、メトラー・トレド(株)
冷蔵庫：	FKEX-5000、日本フリーザー(株)
室温保管庫：	SH-170FINC、コクヨ
超音波洗浄器：	W-113、本多電子(株)
サーモレコーダー：	TR-71U および RTR-52、(株)ティアンドデイ
マイクロピペット：	1000 μ L、Eppendorf AG
フーリエ変換赤外分光光度計：	Spectrum One、PerkinElmer(株)
高速液体クロマトグラフ (HPLC)：	
送液装置：	LC-10ADvp、(株)島津製作所
検出器：	SPD-10Avp、(株)島津製作所
恒温槽：	CTO-10Avp、(株)島津製作所
オートインジェクタ：	SIL-10ADvp、(株)島津製作所
データ処理装置：	CLASS-VP、(株)島津製作所

3. 実験操作

3.1. 測定対象物質の同一性

FT-IR (ATR 法) を用いて測定対象物質の IR スペクトルを測定し、公知スペクトル (Spectral Database for Organic Compounds) との比較により同一性を確認した。

[REDACTED] に、次の条件で IR スペクトルを測定した。測定は室温で実施した。

<FT-IR 測定条件>

測定法：	ATR 法
測定波数：	4000~400 cm^{-1}
分解能：	4 cm^{-1}
積算回数：	1 回

3.2. 測定対象物質の安定性

試験委託者が実施する毒性試験 (委託者試験番号 [REDACTED] における最終投与日以降に、FT-IR (ATR 法) を用いて測定対象物質の IR スペクトルを測定し、3.1 項にて測定したスペクトルと比較した。スペクトルが一致した場合、実験期間中の測定対象物質は安定であったと判断した。

[REDACTED] に、3.1 項に記載の条件で IR スペクトルを測定した。測定は室温で実施した。

3.3. HPLC 条件

カラム：	Inertsil ODS-3V、5 μ m、4.6 mm i.d.×250 mm、ジーエルサイエンス(株)
移動相：	アセトニトリル + 超純水 = 70 + 30 (v/v)

流速： 1.0 mL/min
カラム温度： 40°C
検出波長： 280 nm
注入量： 5 µL

3.4. 標準溶液の調製

測定対象物質の 100.7 mg、100.1 mg を 50 mL 容メスフラスコに秤量し、アセトンを加えて溶解および定容し、標準原液 No. ST2000 を調製した。この液を次表に従いアセトンで希釈して標準溶液 No. SS15～SS600 を調製した。標準原液 No. および標準溶液 No. には調製月日(mmdd)を付して識別した。濃度の有効数字は 4 桁とした。

Standard solution No.	Source solution		Dilution volume (mL)	Nominal concentration (mg/L)
	No.	Volume (mL)		
SS15 (mmdd)	SS50 (mmdd)	3	10	15
SS50 (mmdd)	SS200 (mmdd)	2.5	10	50
SS200 (mmdd)	ST2000 (mmdd)	2	20	200
SS500 (mmdd)	ST2000 (mmdd)	5	20	500
SS600 (mmdd)	ST2000 (mmdd)	3	10	600

3.5. 検量線

標準溶液の HPLC 測定を 3.3 項に示す条件で行い、得られたクロマトグラム上の測定対象物質のピーク面積を得た。得られたピーク面積を縦軸に、測定対象物質濃度(mg/L)を横軸としてグラフを作成するとともに、回帰直線の傾き、y 切片及び相関係数(r)を算出した。計算には Microsoft Office Excel 2010 (SP2 MSO)を用いた。

3.6. 投与液中の 4-メチルベンズアルデヒドの安定性確認

測定対象物質の 100.6 mg および 1003.6 mg を 10 mL および 5 mL 容メスフラスコに秤量し、トウモロコシ油を加えて溶解および定容し、10 mg/mL および 200 mg/mL 模擬投与液 No. DS-2 および No. DS-3 を調製した。模擬投与液 No. DS-2 の 1 mL を 10 mL 容メスフラスコに分取し、トウモロコシ油を加えて希釈し、1 mg/mL 模擬投与液 No. DS-1 を調製した。

模擬投与液を以下のように希釈して被験溶液を調製した。別に、トウモロコシ油 1 mL にアセトンを加えて 10 mL として対照溶液 No. CS-1 を調製した(n=1)。模擬投与液およびトウモロコシ油にアセトンを加えて定容した後、均一にするために超音波洗浄器を用いた。

1 mg/mL 投与液

1 mg/mL 模擬投与液 1 mL にアセトンを加えて 10 mL として被験溶液とした。(n=2、10 倍希釈)

200 mg/mL 投与液

200 mg/mL 模擬投与液 1 mL にアセトンを加えて 20 mL とした。この液 1 mL にアセトンを加えて 20 mL として被験溶液とした。(n=2、400 倍希釈)

被験溶液および対照溶液を 3.3 項に示す HPLC 条件で分析し、得られたクロマトグラム上の測定対象物質のピーク面積を得た。予め作成した検量線より、被験溶液中の測定対象物質濃度を算出した。濃度の有効数字は 4 桁

とした。次式を用いて調製直後の模擬投与液中の測定対象物質濃度を求めた。

$$\text{模擬投与液中の測定対象物質濃度 (mg/mL)} = \frac{\text{被験溶液中の測定対象物質濃度 (mg/L)} \times \text{希釈倍率}}{1000}$$

1 mg/mL および 200 mg/mL 模擬投与液を遮光条件下で冷蔵 8 日間保存後、さらに室温 6 時間保存した。保存後の模擬投与液中の測定対象物質濃度を上記と同様に算出し、次式を用いて残存率を求めた。判定基準は残存率 100%±15%以内とした。

$$\text{残存率 (\%)} = \frac{\text{保存後の測定対象物質平均濃度}}{\text{調製直後の測定対象物質平均濃度}} \times 100$$

結果および考察

投与液中の 4-メチルベンズアルデヒドの安定性試験および 4-メチルベンズアルデヒドの同一性確認・安定性確認を実施した結果を以下に示す。

測定対象物質の同一性

[REDACTED] に測定した測定対象物質の IR スペクトルを Fig. 1 に示す。公知スペクトル (Spectral Database for Organic Compounds) を Fig. 2 に示す。両者のスペクトルは一致しており、同一性を確認した。

測定対象物質の安定性

試験委託者が実施する毒性試験 (委託者試験番号 [REDACTED]) における最終投与日以降である [REDACTED] に測定した測定対象物質の IR スペクトルを Fig. 3 に示す。[REDACTED] に測定した IR スペクトル (Fig. 1) と比較した結果、両者の IR スペクトルは一致しており、実験期間中の測定対象物質が安定であったことを確認した。

投与液中の 4-メチルベンズアルデヒドの安定性確認

標準溶液の測定結果を Table 1 に示す。模擬投与液中の測定対象物質の濃度測定結果を Table 2 に示す。検量線の一例を Fig. 4 に示す。アセトンのクロマトグラム例を Fig. 5 に示す。標準溶液のクロマトグラム例を Fig. 6~Fig. 10 に示す。対照溶液のクロマトグラム例を Fig. 11 に示す。被験溶液のクロマトグラム例を Fig. 12~Fig. 15 に示す。

模擬投与液を遮光条件下での冷蔵 (3.1~4.9 °C) 8 日間保存後、さらに室温 (21.1~21.7 °C) 6 時間保存した結果、1 mg/mL 模擬投与液の残存率は 97.0%、200 mg/mL 模擬投与液の残存率は 97.9% であり、判定基準 (100%±15% 以内) を満たした。

以上の結果、投与液中の 4-メチルベンズアルデヒドは調製後、遮光条件下で冷蔵保存 8 日間後、さらに室温保存 6 時間まで安定であることを確認した。

結論

本試験において、FT-IR(ATR法)を用いて4-メチルベンズアルデヒドの同一性および安定性を確認した。また、HPLCを用いて投与液中の4-メチルベンズアルデヒドの安定性(遮光条件下における冷蔵保存8日間後、さらに室温保存6時間安定)を確認した。

Table 1 Result of the standard solutions

Experiment	Standard solution No.	Concentration (mg/L)	Peak area	Regression equation Correlation coefficient
Stability of the 4-methylbenzaldehyde concentration in the dosing solution	SS15 (1129)	15.11	66767	Regression equation: $y = 4071.8x + 13165$ Correlation coefficient: 0.9991 (analyzed date:)
	SS50 (1129)	50.35	222756	
	SS200 (1129)	201.4	820732	
	SS500 (1129)	503.5	2134393	
	SS600 (1129)	604.2	2418050	
	SS15 (1207)	15.02	69130	Regression equation: $y = 4261.0x + 13549$ Correlation coefficient: 0.9996 (analyzed date:)
	SS50 (1207)	50.05	226151	
	SS200 (1207)	200.2	867650	
	SS500 (1207)	500.5	2194841	
	SS600 (1207)	600.6	2532052	

Table 2 Result of the stability of the test article (4-methylbenzaldehyde) concentration in the dosing solution

Solution No.	Storage	Prepared conc. (mg/mL)	Dilution factor	Peak area	Detected conc. (mg/L)	Determined conc. (mg/mL)		Residual rate (%)
						Individual	Mean	
DS-1-1	Before	1.006	10	442378	105.4	1.054	1.054	97.0
DS-1-2				442570	105.5	1.055		
DS-3-1	After			451899	102.9	1.029	1.022	
DS-3-2				446566	101.6	1.016		
DS-1-3	Before	200.7	400	2070935	505.4	202.2	205.2	97.9
DS-1-4				2132497	520.5	208.2		
DS-3-3	After			2253589	525.7	210.3	200.9	
DS-3-4				2054421	479.0	191.6		

$$\text{Residual rate (\%)} = \frac{\text{4-methylbenzaldehyde concentration after storage}}{\text{4-methylbenzaldehyde concentration before storage}} \times 100$$

date:

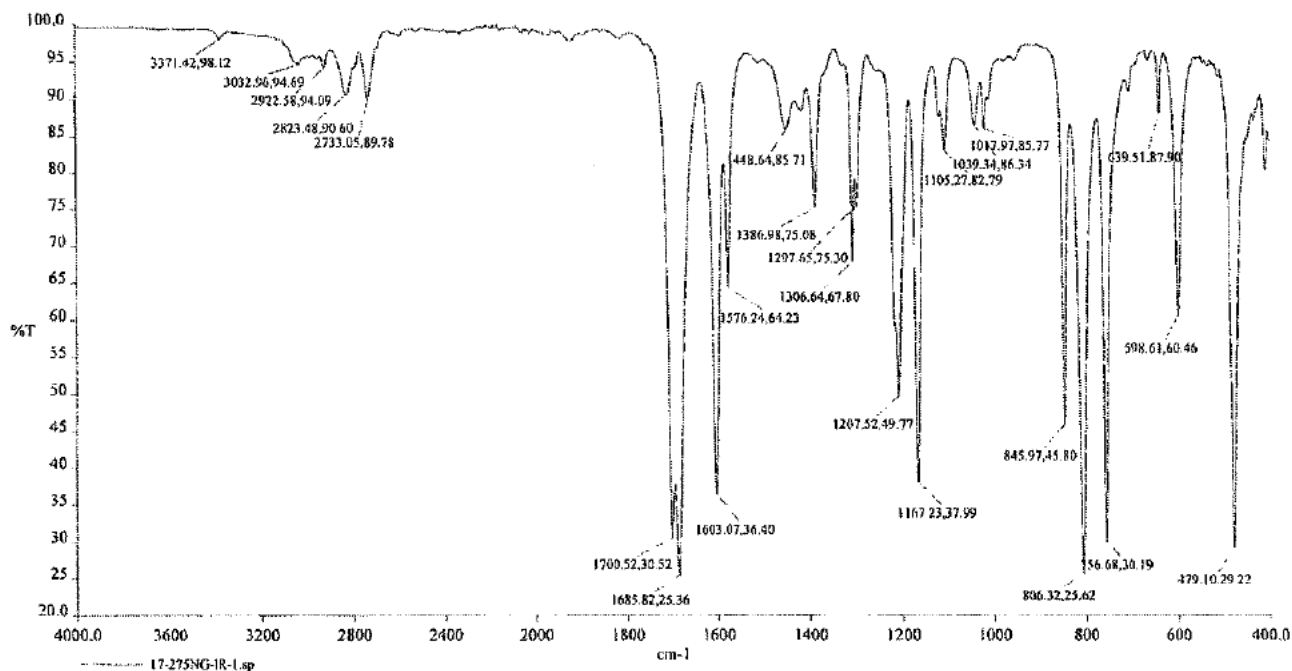


Fig. 1 IR spectrum of the test article for the identity test (analyzed date:)

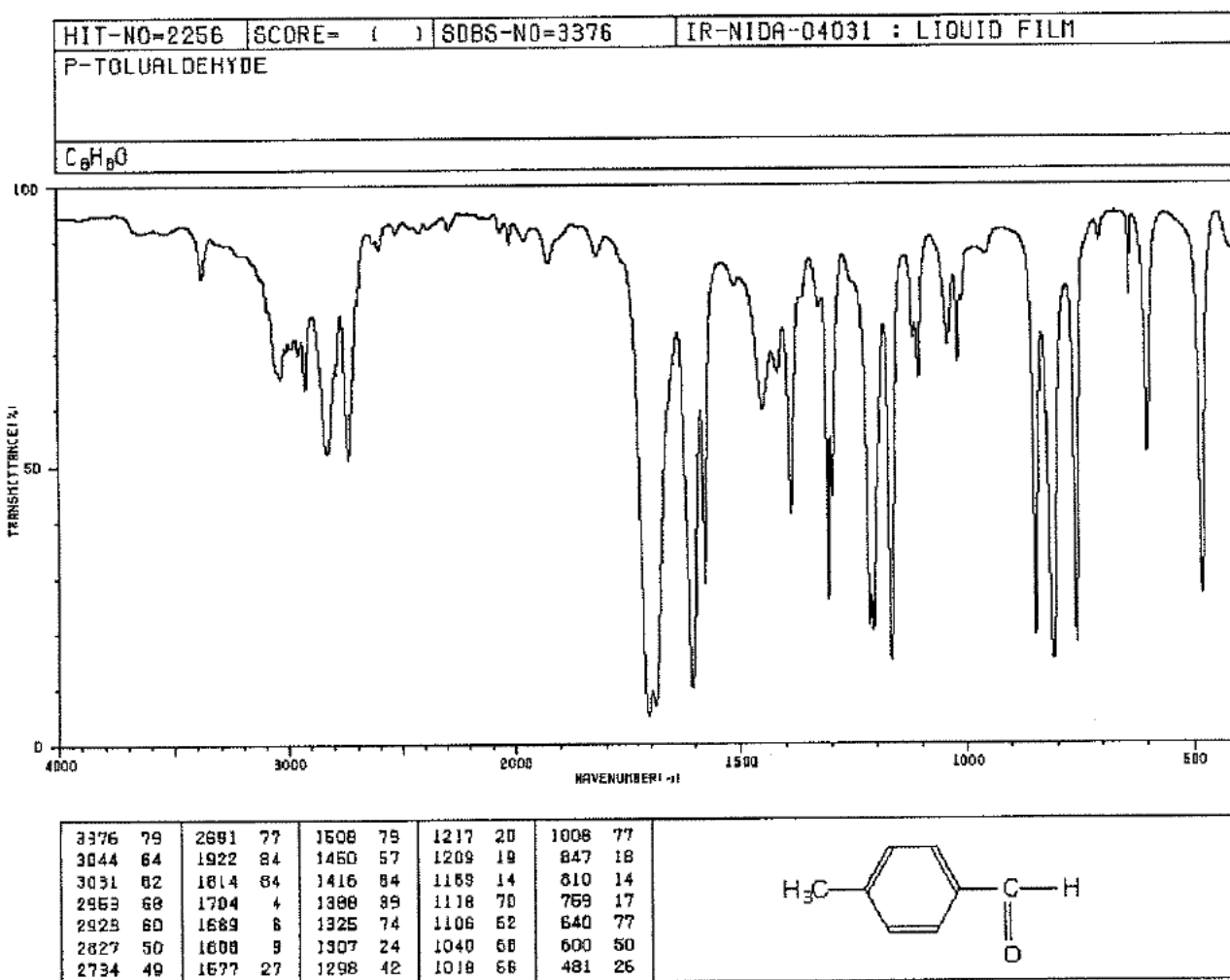


Fig. 2 Common IR spectrum of the test article provided by the Spectral Database for Organic Compounds.

SDBSWeb : <http://sdfs.db.aist.go.jp> (National Institute of Advanced Industrial Science and Technology, download: 2017/11/28)

date:

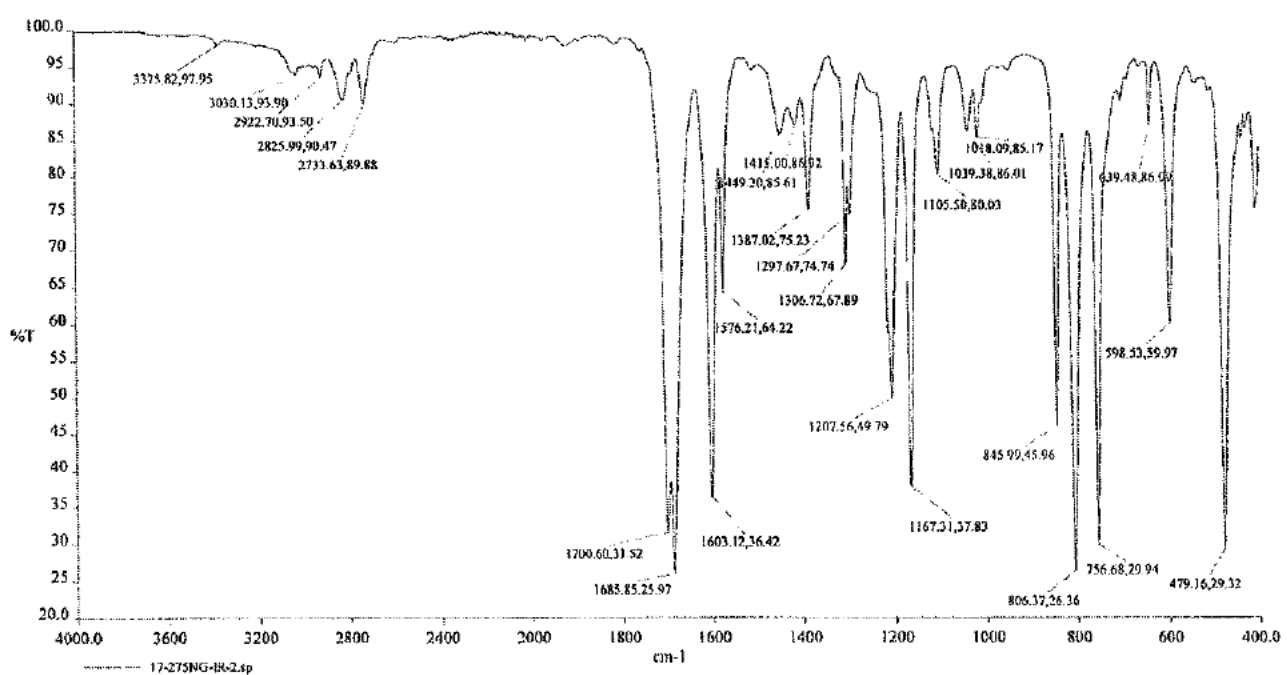


Fig. 3 IR spectrum of the test article for the stability test (analyzed date:)

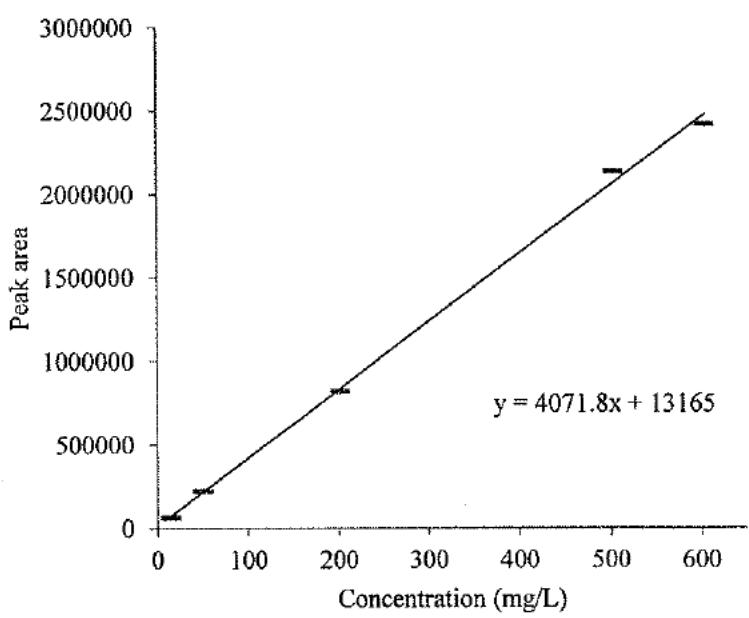
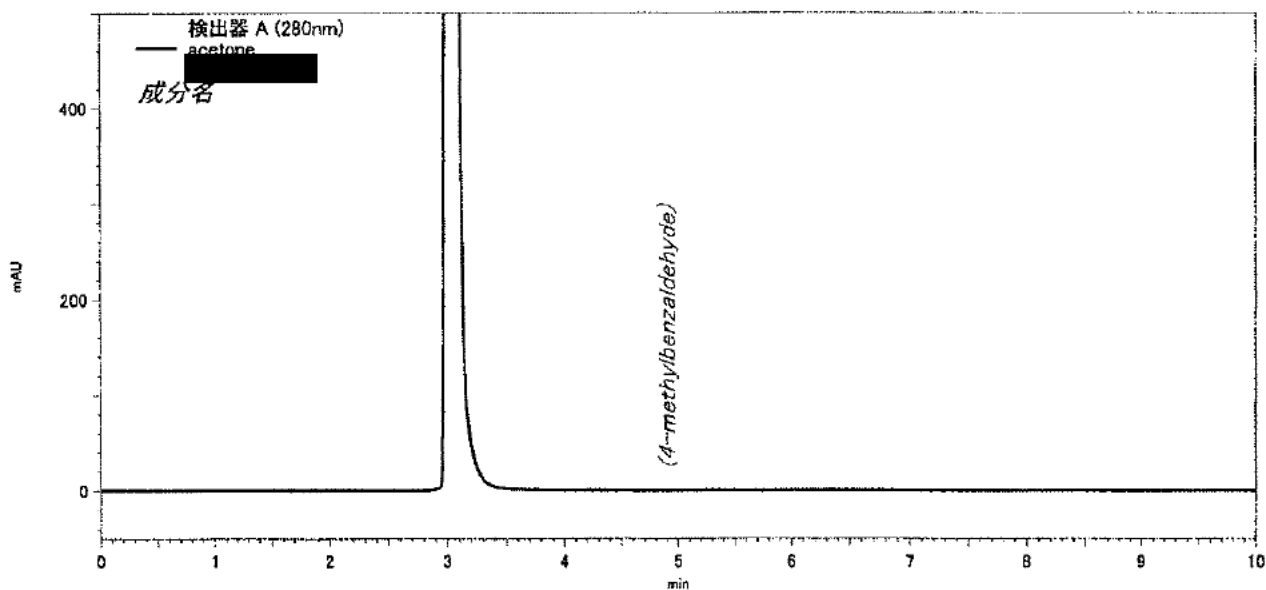


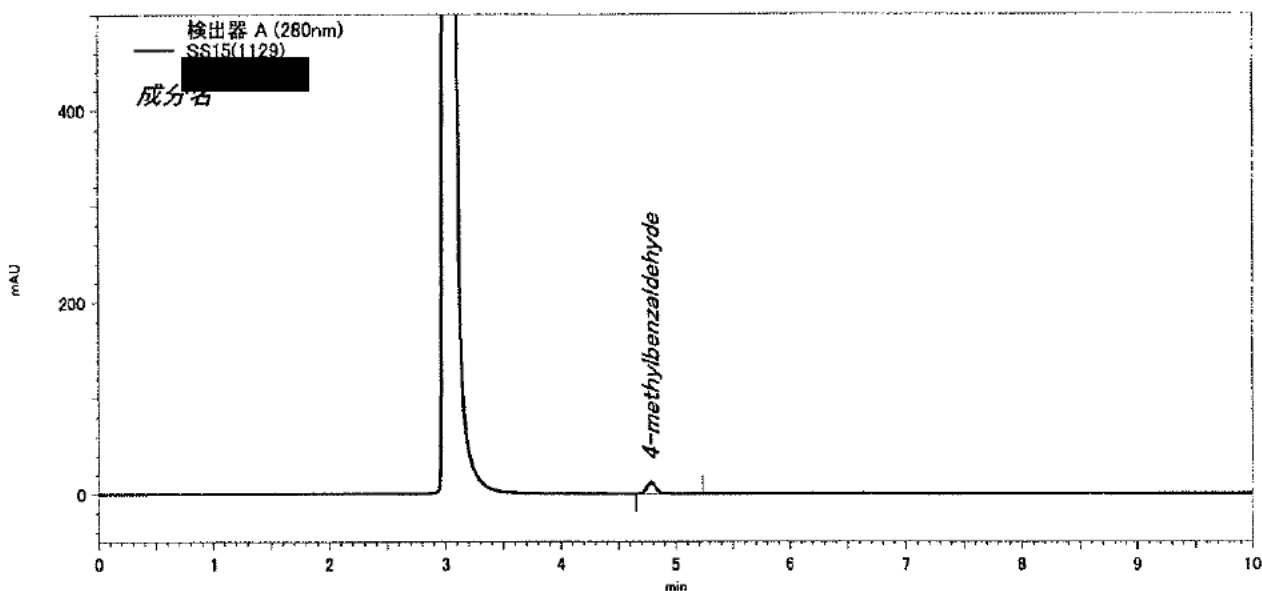
Fig. 4 Typical calibration plot and regression line (analyzed date:)



分析レポート

検出器 A (280nm) ピーク番号	保持時間	面積	成分名
			4-methylbenzaldehyde

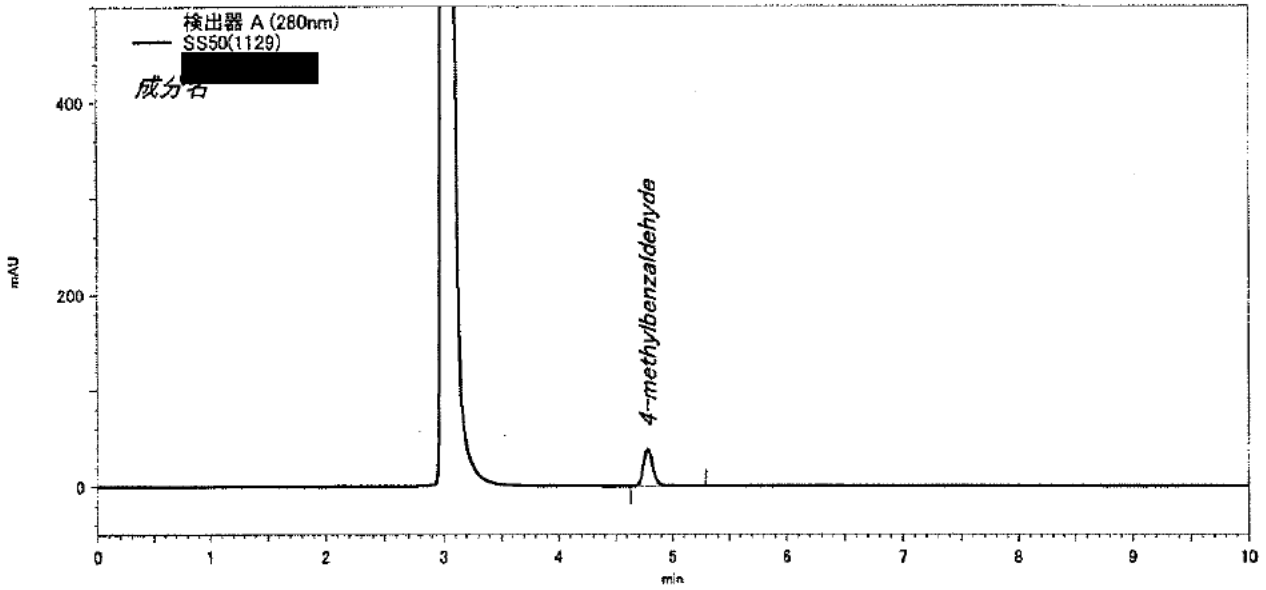
Fig. 5 Typical chromatogram of acetone.



分析レポート

検出器 A (280nm) ピーク番号	保持時間	面積	成分名
1	4.780	66767	4-methylbenzaldehyde

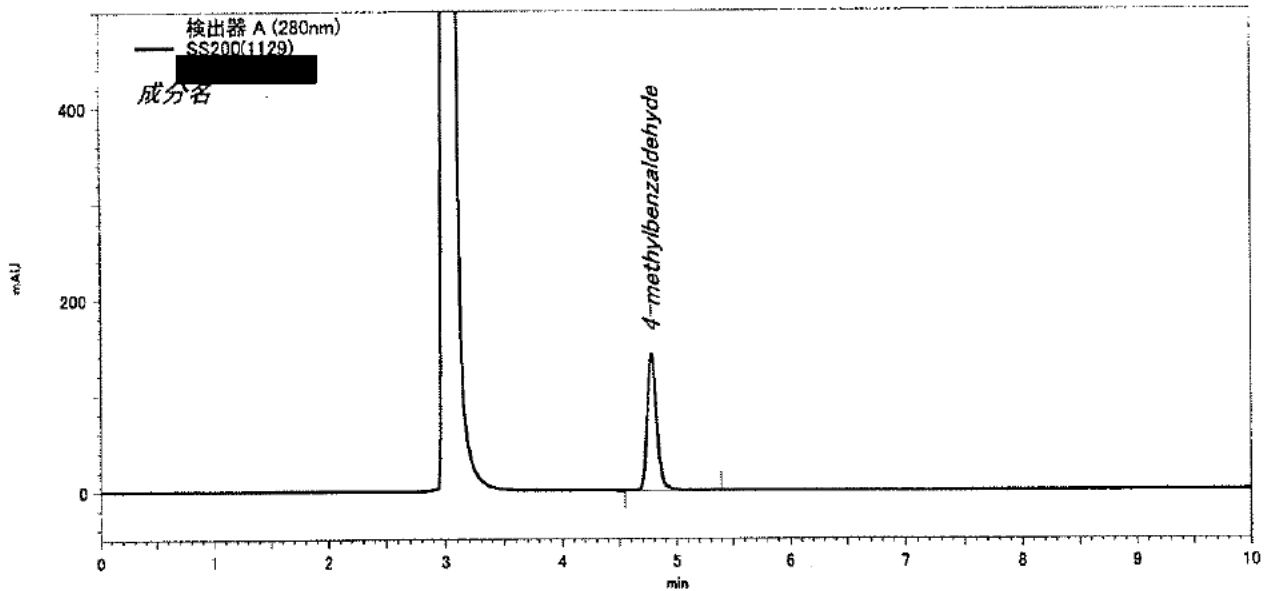
Fig. 6 Typical chromatogram of the standard solution No. SS15(1129).



分析レポート

検出器 A (280nm) ピーク番号	保持時間	面積	成分名
1	4.781	222756	4-methylbenzaldehyde

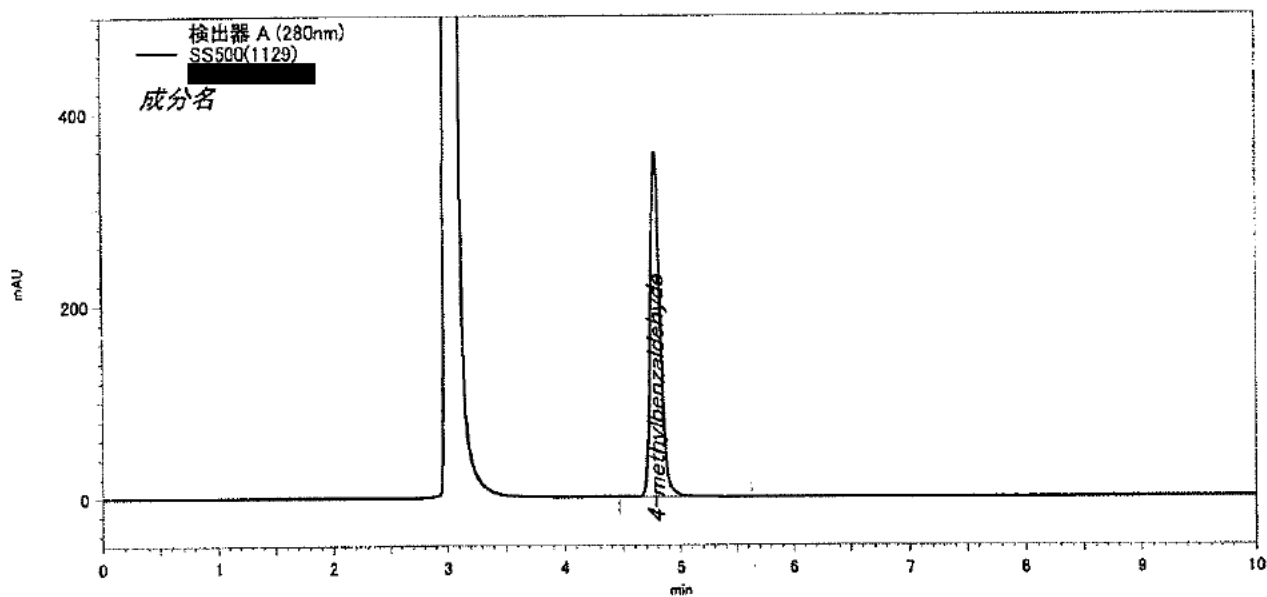
Fig. 7 Typical chromatogram of the standard solution No. SS50(1129).



分析レポート

検出器 A (280nm) ピーク番号	保持時間	面積	成分名
1	4.782	820732	4-methylbenzaldehyde

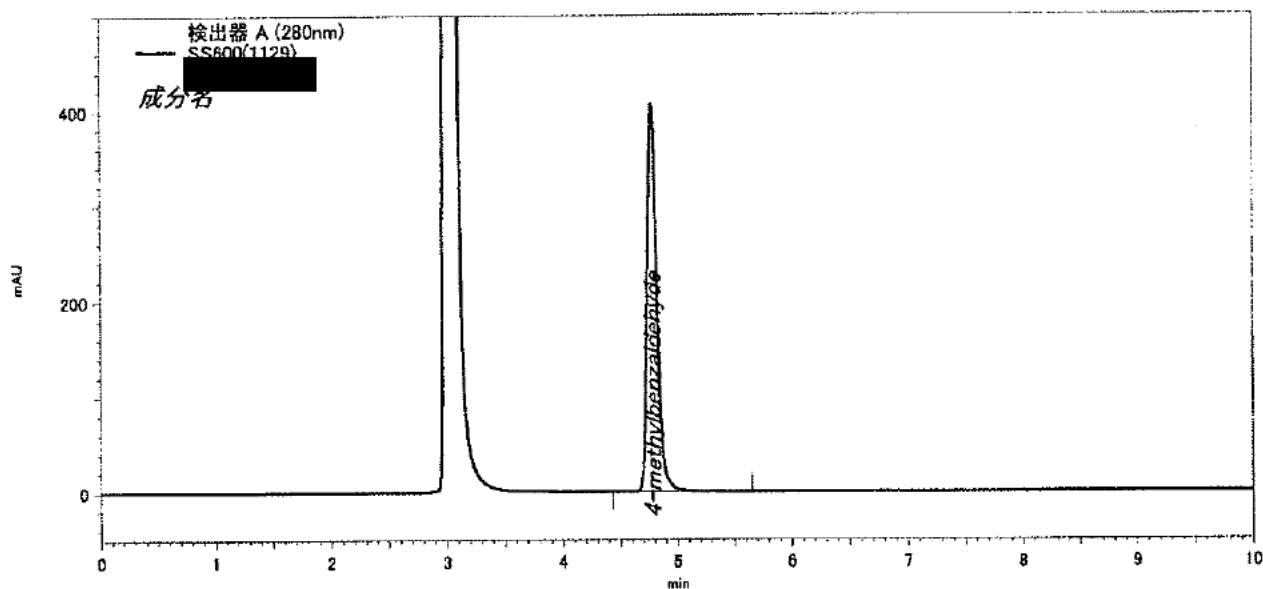
Fig. 8 Typical chromatogram of the standard solution No. SS200(1129).



分析レポート

検出器 A (280nm) ピーク番号	保持時間	面積	成分名
1	4.782	2134393	4-methylbenzaldehyde

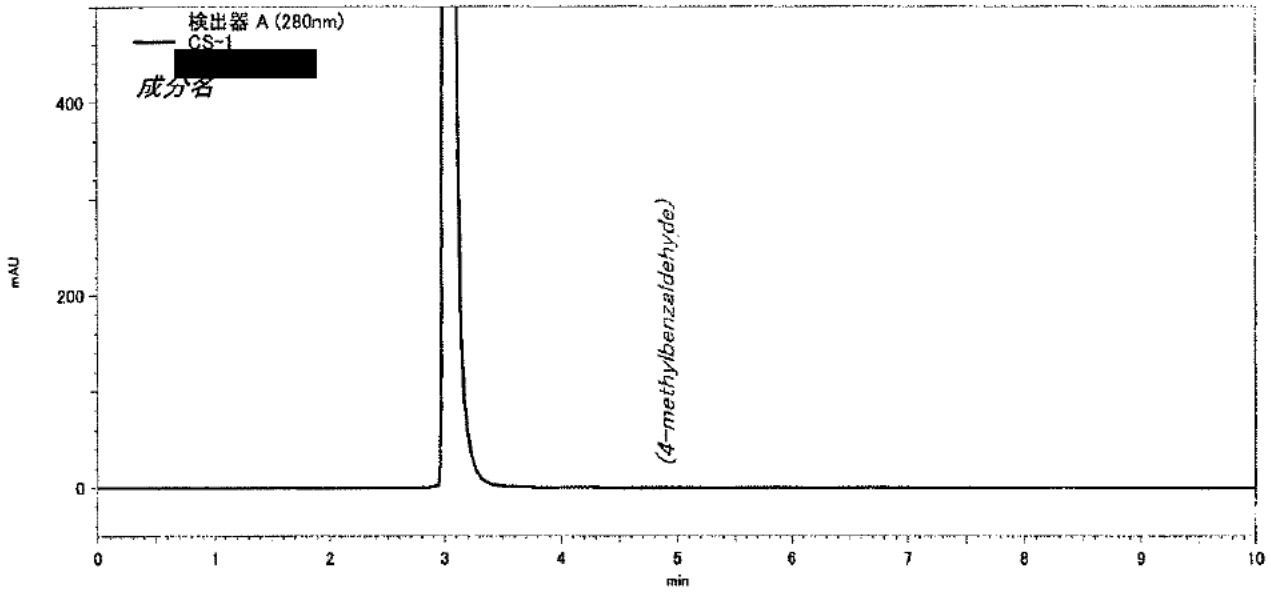
Fig. 9 Typical chromatogram of the standard solution No. SS500(1129).



分析レポート

検出器 A (280nm) ピーク番号	保持時間	面積	成分名
1	4.781	2418050	4-methylbenzaldehyde

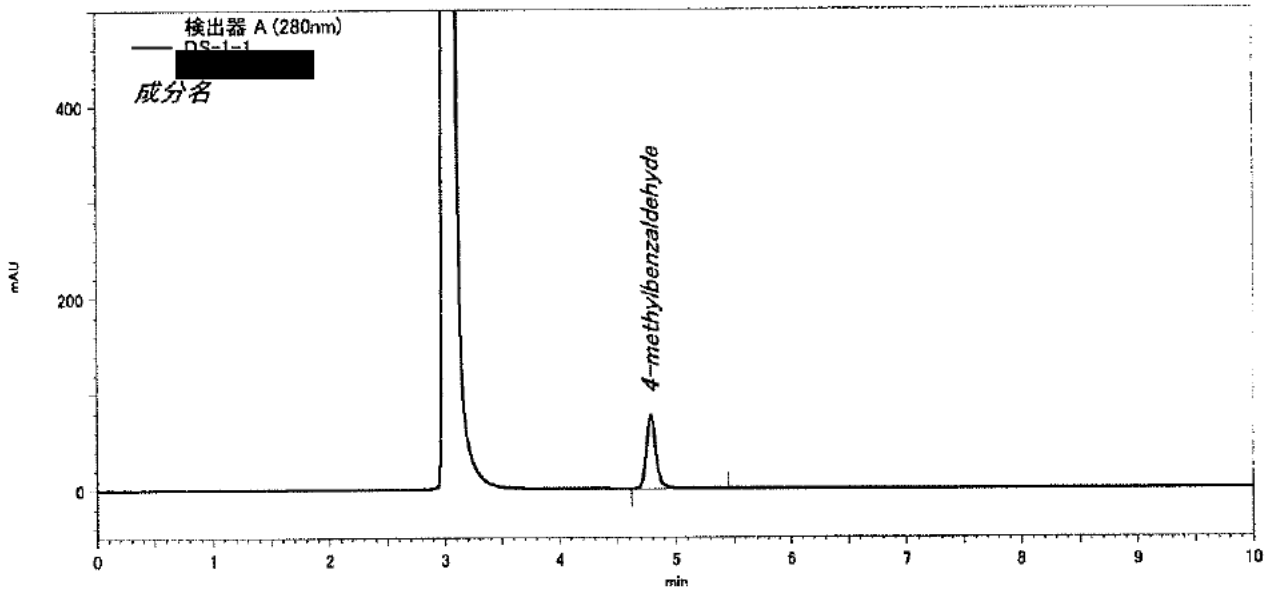
Fig. 10 Typical chromatogram of the standard solution No. SS600(1129).



分析レポート

検出器 A (280nm) ピーク番号	保持時間	面積	成分名
			4-methylbenzaldehyde

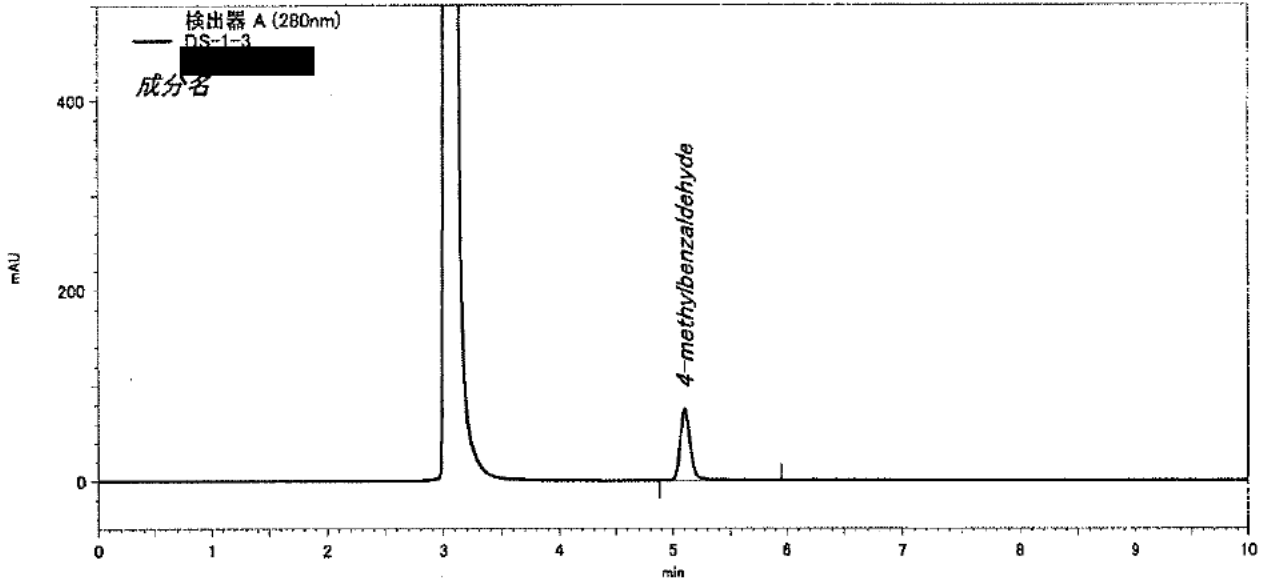
Fig. 11 Typical chromatogram of the control solution No. CS-1.



分析レポート

検出器 A (280nm) ピーク番号	保持時間	面積	成分名
1	4.782	442378	4-methylbenzaldehyde

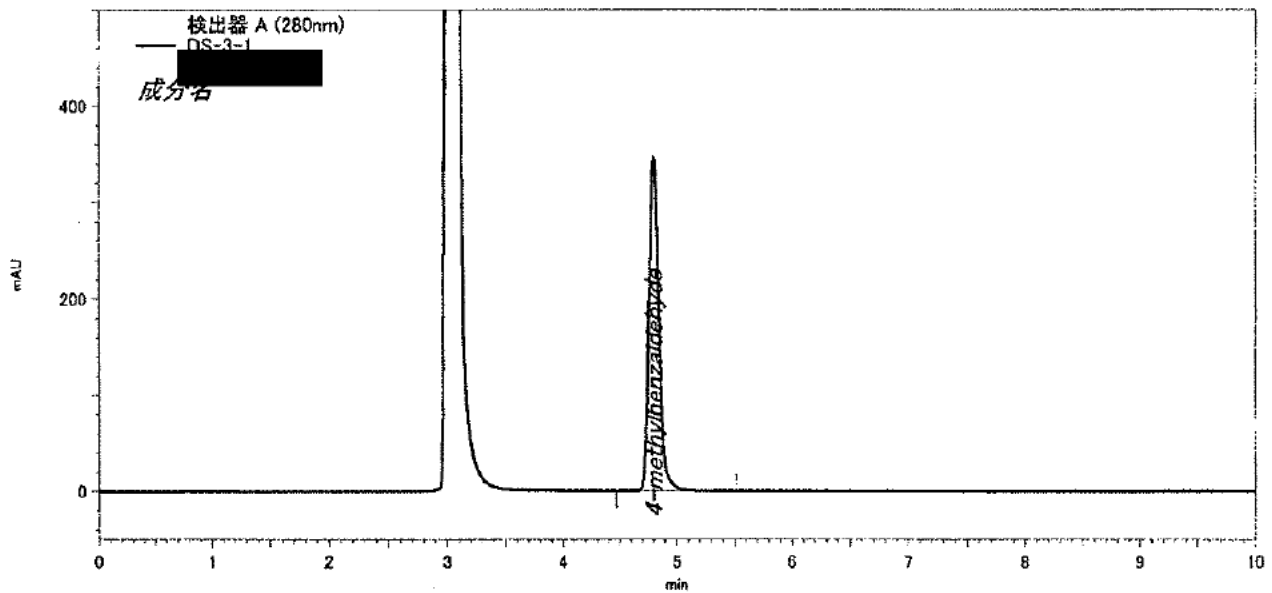
Fig. 12 Typical chromatogram of the test solution No. DS-1-1.



分析レポート

検出器 A (280nm) ピーク番号	保持時間	面積	成分名
1	5.104	451899	4-methylbenzaldehyde

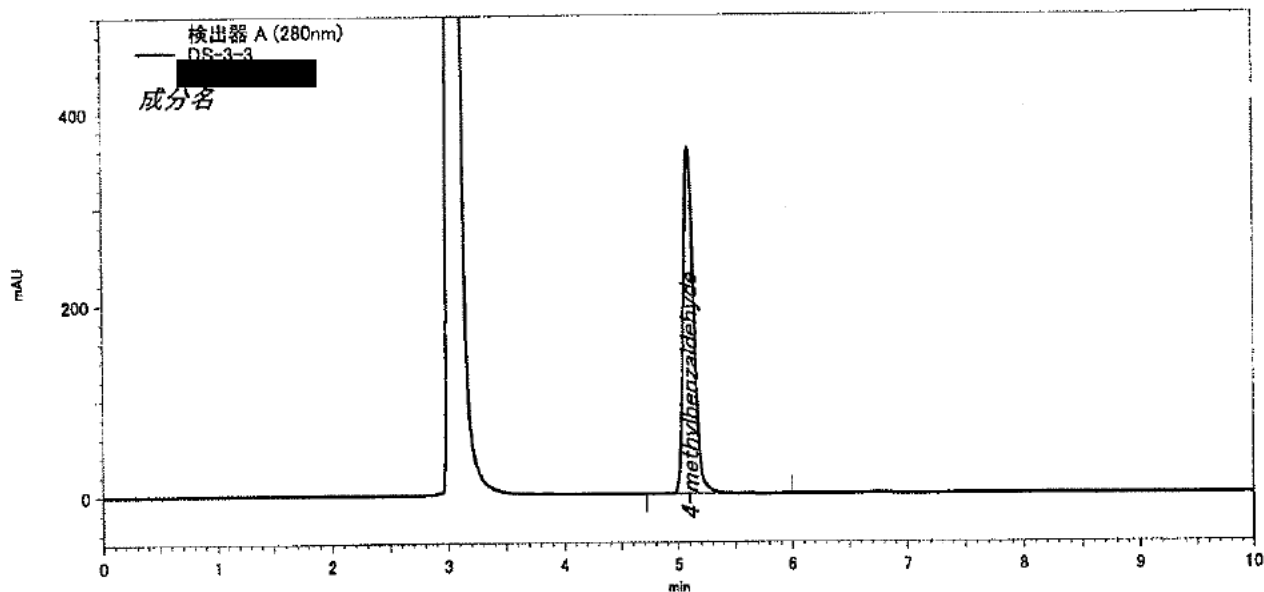
Fig. 13 Typical chromatogram of the test solution No. DS-1-3.



分析レポート

検出器 A (280nm) ピーク番号	保持時間	面積	成分名
1	4.799	2070935	4-methylbenzaldehyde

Fig. 14 Typical chromatogram of the test solution No. DS-3-1.



分析レポート

検出器 A (280nm) ピーク番号	保持時間	面積	成分名
1	5.099	2253589	4-methylbenzaldehyde

Fig. 15 Typical chromatogram of the test solution No. DS-3-3.