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Re: For Your Information Submission:

The enclosed information is submitted on behalf of Dow Corning Corporation, Midland, Michigan, 48686-0994, on a For-Your-Information (FYI) basis as a follow-up to submissions made concerning decamethylcyclopentasiloxane (DMCPS), which chemical substance was the subject of a health and safety data rule issued under Section 8(d) of the Toxic Substances Control Act (TSCA) and with an effective date of June 14, 1993 (sunset date June 30, 1998), as codified at 40 CFR 716 (Health and Safety Data Reporting). The information presented in this submission was generated as part of our Siloxane Research Program. This program was the subject of a memorandum of understanding, dated April 9, 1996, between Dow Corning and EPA.

**Listed Chemical Substance:**

541-02-6 Decamethylcyclopentasiloxane (DMCPS, D<sub>5</sub>)

**Final Study Report:**

Absorption, Distribution, Metabolism, and Excretion (ADME) Study of <sup>14</sup>C-Decamethylcyclopentasiloxane (D<sub>5</sub>) in the Rat Following a Single Nose-Only Vapor Inhalation Exposure to <sup>14</sup>C-D<sub>5</sub> at Two Dose Levels

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Dow Corning Corporation  
2001-I0000-50469  
February 8, 2002



**Manufacturer:**

Dow Corning Corporation  
PO Box 994  
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Midland, Michigan 48686-0994

For purposes of this TSCA For-Your-Information (FYI) submission, the general INTERNAL designation on the attached health and safety report is waived by Dow Corning.

If you require further information regarding this submission, please contact Michael Thelen, Manager of U.S. EPA Regulatory Affairs, at 989-496-4168 or at the address provided herein.

Sincerely,

A handwritten signature in black ink that reads "Kathleen P. Plotzke". The signature is written in a cursive style with a large initial 'K'.

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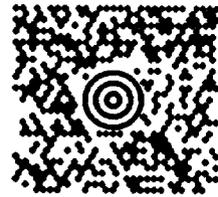
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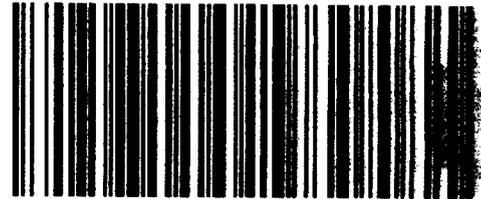
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Battelle, Toxicology Northwest  
Technical Report for Dow Corning Corporation

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Report No.: 2001-I0000-50469

Title: Absorption, Distribution, Metabolism, and Excretion (ADME) Study of <sup>14</sup>C-Decamethylcyclopentasiloxane (D<sub>5</sub>) in the Rat Following a Single Nose-only Vapor Inhalation Exposure to <sup>14</sup>C-D<sub>5</sub> at Two Dose Levels

Study No.: SN 9105

External Facility Study No: N003442C

Test Article: <sup>14</sup>C-Decamethylcyclopentasiloxane (D<sub>5</sub>)

Study Director: Terry J. Mast, PhD

Sponsor: Dow Corning Corporation

Sponsor Representative: Joseph M. Tobin, B.S.

Testing Facility: Battelle, Toxicology Northwest  
900 Battelle Blvd, P.O. Box 999  
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Study Completion Date: 2/8/02

Number of Pages: Total of 1170 pages (including appendices)

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## ABSTRACT

The objective of this study was to evaluate the absorption, distribution, metabolism, and excretion (ADME) of radioactivity in male and female Fischer 344 rats following a single nose-only inhalation exposure to  $^{14}\text{C-D}_5$  at two dose levels. The first group of rats was exposed a nominal concentration of 7 ppm (actual  $6.9 \pm 0.2$  ppm; mean  $\pm$  SD)  $^{14}\text{C-D}_5$  vapor for a single 6-hour exposure period on 6/22/99. The specific activity of the 7-ppm dosing solution was  $18.9 \pm 0.8$  mCi/g. The second group of rats was exposed to a nominal concentration of 160 ppm (actual  $167.3 \pm 3.7$  ppm; mean  $\pm$  SD)  $^{14}\text{C-D}_5$  vapor for a single 6-hour exposure period on 7/14/99. The specific activity of the 160-ppm dosing solution was  $0.919 \pm 0.012$  mCi/g.

The exposed rats consisted of three subsets; a body burden group, a distribution group, and a distribution and elimination (mass balance) group. In the body burden group 4/8 rats were solubilized *in toto* and the remaining 4/8 rats were pelted and the pelt and carcass solubilized and counted separately. For both groups, restraining tube rinses containing feces and urine were also analyzed for each rat. Gloves and associated lab waste were retained for radioactivity analysis. Rats in the distribution subset were killed at specified times during the 6-hr exposure period (at 3 hr) or post-exposure (0, 1, 3, 12, 24, 48, 72, 96, 120, and 168 hr). Blood and plasma only were collected from rats killed during exposure. Blood, plasma, and selected tissues were collected from the rats killed post-exposure. Rats in the mass balance group were placed in glass metabolism cages for 168 hr. Expired air, urine, and feces were collected at specified intervals during the 168-hr period. Data from the body burden group was used to obtain the estimated dose and then was compared to data from the mass balance group to obtain a percent recovery for the study. Data from the mass balance and distribution subsets will be used to model the rate of tissue distribution and excretion of the test article.

Approximately 2% of the inhaled  $^{14}\text{C}$ -labeled test article was retained regardless of sex or exposure concentration. Mean percent recovery of body burden

dose for the 7-ppm exposure group was approximately 83 and 72% for males and females, respectively, and for the 160-ppm group was approximately 110 and 80% respectively. Distribution of radioactivity among tissues and over time was approximately the same for both sexes. However, the percentage of radioactivity cleared as expired volatiles was significantly greater in males than females for both exposure concentrations ( $p \leq 0.01$ ). Radioactivity was excreted in approximately equal amounts in the urine and the feces for all groups except for the 160-ppm males, where fecal was greater than urinary excretion. A metabolite profile analysis using HPLC showed the major  $^{14}\text{C}$ -peak in the feces was parent  $\text{D}_5$ ; however, the major peak in the urine did not correspond to  $^{14}\text{C}\text{-D}_5$ . Analyses of the data showed that  $C_{\text{max}}$  occurred at 0 hour post-exposure for most tissues; the predominant exceptions being the thyroid gland in the 160-ppm group (males and females) at 120 hr, and the perirenal fat (males and females) where  $C_{\text{max}}$  varied from 3 – 168 hr post-exposure.

### COMPLIANCE STATEMENT

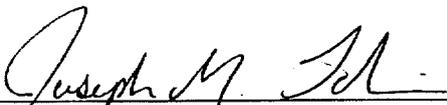
This study was conducted in an AAALAC-accredited facility in accordance with the NIH Guide for the Care and Use of Laboratory Animals and the Animal Welfare Act. Work conducted by Battelle was performed in compliance with Good Laboratory Practice (GLP) guidelines as presented by the EPA (40 CFR Pt 792) GLP Standards.

Study data and report will be shipped to the archives of Dow Corning Corporation - Health and Environmental Sciences at the completion of the contract.

Biological samples remaining from the study that are currently being stored at Battelle will be disposed upon acceptance of the final report.

  
\_\_\_\_\_  
Terry J. Mast, PhD, DABT  
Study Director  
Battelle, Toxicology Northwest

2-8-02  
Date

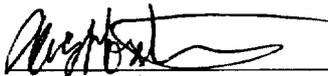
  
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Joseph M. Tobin  
Sponsor Representative  
Dow Corning Corporation

2/7/02  
Date

## QUALITY ASSURANCE

Listed below are phases and/or procedures that were reviewed by the Quality Assurance Unit at Battelle, Toxicology Northwest during the period 5/25/99 through 2/4/02. Included are the dates the reviews were performed and findings reported to the Study Director and Management. All problems likely to affect study integrity were reported to the Study Director or designee at the time of the review.

This report accurately describes the procedures used and reflects the raw data obtained in the conduct of this study.



\_\_\_\_\_  
Michael G. Horstman  
Quality Assurance Manager  
Battelle, Toxicology Northwest

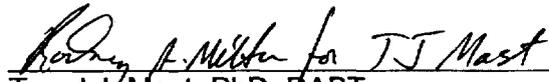
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INSPECTION RECORD

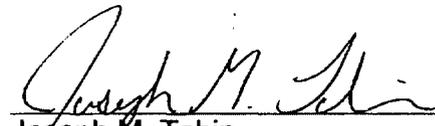
Inspection of	Inspection Date(s)	Report Issued to		
		Study Director	Management	Inspector(s)
Online GC Monitor Calibration	5/25; 6/3/99	6/9/99	6/9/99	RJ Burkey
Animal Receipt, Quarantine	6/3/99	7/26/99	7/26/99	JM Pyle
Health Screen	6/3/99	7/26/99	7/26/99	JM Pyle
Body Weights	6/21/99	7/26/99	7/26/99	RJ Burkey
Randomization	6/21/99	7/26/99	7/26/99	RJ Burkey
Animal Identification	6/21/99	7/26/99	7/26/99	RJ Burkey
Exposure Operations	6/22/99	7/26/99	7/26/99	RJ Burkey
Necropsy, Collection of Blood, Tissues	6/22/99	7/26/99	7/26/99	RJ Burkey
Collection of Excreta, CO <sub>2</sub> , Volatiles	6/24/99	7/26/99	7/26/99	RJ Burkey
Data Audit, LRB 13661 & 8 Toxicokinetic Data Packs	8/17,23,24,26,27,30; 9/8/99	9/9/99	9/9/99	RJ Burkey
Data Audit, Exposure Packs	9/23, 27/99 & 12/17/01	1/2/02	1/2/02	RJ Burkey, PR Junt
Draft Appendices and Data Audit, Notes to File, Animal Records, Randomization Weights, Health Screen Records, Tissue Data, Prestart, Predose, and Post dose Data Packs	3/9,13-16,21-24,27-30; 4/3-5,7/00	4/12/00	4/12/00	PR Junt DL Redetzke
Draft Final Report	3/30-31; 4/6-11/00	4/12/00	4/12/00	RJ Burkey MG Horstman MT Jensik PR Junt DL Redetzke
Data Audit, Method Development	8/10, 14/00	10/3/00	9/21/00	PR Junt
Data Audit, Urine Metabolite	8/10/00	8/31/00	8/18/00	PR Junt
Final Report	1/23-25, 28, 30-31; 2/1, 4/02	2/4/02	2/4/02	RJ Burkey PR Junt

**APPROVAL SIGNATURES**

This report consists of pages 1 through 192, including Tables 1 through 119 and Figures 1 through 46, and, Appendices A through G.

  
\_\_\_\_\_  
Terry J. Mast, PhD, DABT  
Study Director  
Battelle, Toxicology Northwest

2-8-02  
Date

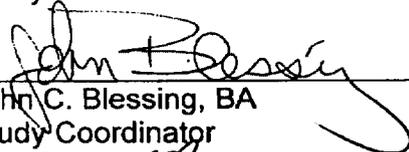
  
\_\_\_\_\_  
Joseph M. Tobin  
Sponsor Representative  
Dow Corning Corporation

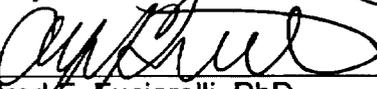
2/7/02  
Date

**STUDY INFORMATION**

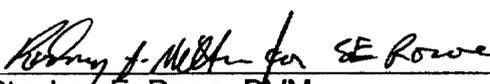
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Experimental Start Date: 6/22/99  
Experimental Termination Date: 7/21/99  
Analysis Completion Date: 11/16/99  
Study Completion Date: 2/8/02  
Study Director: Terry J. Mast, PhD, DABT  
Sponsor: Dow Corning Corp.  
Sponsor Representative: Joseph M. Tobin, B.S.

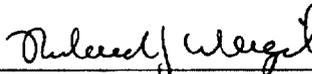
Study Personnel:

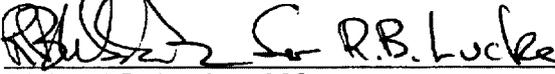
  
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John C. Blessing, BA  
Study Coordinator 2/8/02  
Date

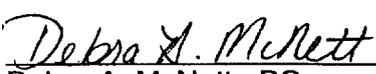
  
\_\_\_\_\_  
Alfred F. Fuciarelli, PhD  
Toxicokinetics and Bioanalytical Chemistry 2-8-02  
Date

  
\_\_\_\_\_  
Kathleen H. Mellinger, MS  
Radioanalytical Chemistry 2/8/02  
Date

  
\_\_\_\_\_  
Stephen E. Rowe, DVM  
Laboratory Animal Medicine 2-8-02  
Date

  
\_\_\_\_\_  
Richard J. Weigel, PhD  
Bioengineering (Exposure Operations) 2-8-02  
Date

  
\_\_\_\_\_  
Richard B. Lucke, MS  
Atmosphere Monitoring 2-8-02  
Date

  
\_\_\_\_\_  
Debra A. McNett, BS  
Dow Corning Corporation - Bioanalytical Feb. 7, 2002  
Date

## 1.0. INTRODUCTION

The objective of this study was to evaluate the absorption, distribution, metabolism, and excretion of radioactivity in rats following a single nose-only inhalation exposure to  $^{14}\text{C}$ -decamethylcyclopentasiloxane ( $^{14}\text{C}\text{-D}_5$ ) at two dose levels. The study protocol, amendments, and deviations are attached as **Appendix A**.

## 2.0. MATERIALS AND METHODS

### 2.1. Test Article

#### 2.1.1. Test Article Receipt and Storage

Radiolabeled test article ( $^{14}\text{C}\text{-D}_5$ , CAS# 541-02-6) was prepared and supplied by Wizard Laboratories, Inc. (West Sacramento, CA). An initial shipment of the material (lot# 990316A, total activity 120 mCi) was received 5/14/99. A second shipment of the material (lot# 990316A, total activity 27 mCi) was received 7/9/99. This material was used to prepare the dosing solution used for the study. The reported radiochemical purity of the radiolabeled test article was 99.23% (See Wizard Laboratories Product Information reports 5/13/99 and 7/8/99; **Appendix B**). Radiolabeled test article was stored at  $\sim -70^\circ\text{C}$  prior to dosing solution preparation.

Unlabeled test article ( $\text{D}_5$ , CAS# 541-02-6) was supplied by Dow Corning Corporation (DCC, Midland, MI). This was used for combining with the radiolabeled material to prepare the dosing solution and for exposure system validation. The material (lot# LL014002) was received 9/2/98. The purity of the test article was 99.444% as reported by the Sponsor (DCC Study No. 8824).<sup>1</sup> Unlabeled test article was stored at room temperature prior to dosing solution preparation.

### 2.1.2. Dosing Solution Specific Activity and Radiochemical Purity

After preparation, triplicate pre-exposure and post-exposure samples of the dosing solution were analyzed via liquid scintillation spectrometry (LSS) to determine radioactivity concentration. Radiochemical purity and recovery of <sup>14</sup>C-D<sub>5</sub> were also determined on pre-exposure and post-exposure samples using high-performance liquid chromatography (HPLC) with radiometric detection. Details of the equipment and parameters used for these assays are in **Appendix B** and the results are summarized in **Table 1**.

Dosing Solution	Specific Activity (mCi/g, mean ± SD, n = 3)		Purity (% ± SD, n = 3)	HPLC Recovery (%) <sup>a</sup>
	Pre-exposure	Post-exposure		
7 ppm	18.3 ± 0.2	19.5 ± 0.6	98.05 ± 1.05	87 <sup>b</sup>
160 ppm	0.916 ± 0.010	0.922 ± 0.015	98.85 ± 0.03	98

a: The recovery from the HPLC system was determined by comparing the radioactivity measured in the eluent to the radioactivity of the injected sample.

b: Recovery did not meet acceptance criteria (>90%). Sponsor notified during 6/21/99 site visit. Analysis not repeated.

### 2.2. Generation and Monitoring of Exposure Unit Concentrations

Two cylindrical, flow-past, nose-only inhalation exposure units were used for the study exposures. The test atmosphere was generated by pumping the test article into a heated glass column and using heated air to convey the vapor out of the generator. The vapor was delivered to the exposure units via insulated teflon delivery lines that allowed the vapor to cool sufficiently to satisfy the temperature requirements in the exposure unit but prevented condensation. The concentration of D<sub>5</sub> in the exposure units was monitored from a representative animal breathing port using a calibrated on-line gas chromatograph (GC). Target exposure unit concentrations of 7 and 160 ppm D<sub>5</sub> were characterized during pre-study testing conducted under Battelle SN N003442A (DCC SN 9103)<sup>2</sup>. Details on the test

atmosphere generation and exposure system characterization are presented in **Appendix B**.

### **2.3. Characterization of Metabolism Cages for D<sub>5</sub> Trapping Efficiency**

Metabolism cages were characterized for trapping efficiency of D<sub>5</sub> prior to the start of the study using excess dosing solution from Battelle SN N003442A (DCC SN 9103)<sup>2</sup>. Three metabolism cages were set up to simulate study conditions except that dry ice was not added to the containers surrounding the urine and feces collection reservoirs (because there were no animal in cages to offset cooling of cages from dry ice). The flow rate was 0.6-0.8 L/min and the cage temperatures ranged from 68-72°F during the test. Charcoal tubes (referred to as sorbent sampling tubes in **Appendix C**, see **Section 2.2** in **Appendix C** for details) were attached to the cages and KOH was added to the CO<sub>2</sub> collection bubblers. A glass petri dish was spiked with <sup>14</sup>C-D<sub>5</sub> (88,343,400 ± 1,252,264 dpm; mean ± SD, n = 6) and placed on the metal grate inside each metabolism cage. The cages were closed and clamped shut. The cage atmospheres were collected through the charcoal tubes and KOH traps for ~24 hr. After ~24 hours, the charcoal tubes were removed from the systems, capped, and stored at ~-20°C until prepared for analysis. The tubes were opened and the front and back of each tube was added to separated liquid scintillation counting (LSC) vials. Toluene (10 mL) was added to each vial. They were mixed and placed back in a freezer (~-20°C) overnight and then brought to room temperature for sampling. The petri dishes were triple-rinsed with 70% ethanol and then deionized water. The cages were also rinsed with 70% ethanol and deionized water. Rinse containers were weighed before and after the addition of the rinses. Samples were prepared and analyzed as described in **Section 2.7** and the percent recovery was determined relative to the amount of radioactivity that was spiked onto each petri dish. Metabolism cage test results are shown in **Table 2**.

<b>Table 2</b> Metabolism Cage Trapping Efficiency Characterization Results			
Sample Description	Total dpm (Mean, n = 2)		
	Cage #1	Cage #2	Cage #3
Charcoal Tube – Front	83091500	84435860	83300290
Charcoal Tube - Back	-- <sup>a</sup>	8183	-- <sup>a</sup>
Cage Rinse #1	260468	291607	328793
Cage Rinse #2	100564	114202	206880
Petri Dish Rinse	904100	1076958	844016
KOH Trap	-- <sup>a</sup>	-- <sup>a</sup>	-- <sup>a</sup>
Total dpm Recovered	84356632	85926810	84679979
% Recovered (Charcoal Tube Only) <sup>b</sup>	94	96	94
Total % Recovery <sup>b</sup>	95	97	96
Mean Total % Recovery ± SD	96 ± 1		
a: <3 x blank dpm.			
b: Total dpm spiked was 88343400 ± 1252264 (mean ± SD, n = 6).			

A breakthrough study was conducted to investigate D<sub>5</sub> loading capacity on the sorbent sample tubes. To achieve sufficiently high D<sub>5</sub> concentrations, the breakthrough samples were collected using an exposure port during exposure unit validation tests. Sorbent sample tube breakthrough was measured by drawing 160 ppm <sup>14</sup>C-D<sub>5</sub> exposure atmosphere at 1.82 L/min for 1 min through two sorbent sample tubes (Anasorb CSC; SKC-West, Incorporated; Fullerton, CA) connected in series. Total loading at this concentration, flow rate, and collection time was 2.4 mg <sup>14</sup>C-D<sub>5</sub>. Each sorbent sample tube contained the following components (in the following order listed from the entrance): high-purity glass wool, 1800 mg sorbent layer, high-purity glass wool, 200 mg backup sorbent layer, and foam plug. Breakthrough was calculated by dividing the total activity (dpm) found in the 200 mg backup sorbent layer of tube 1 and both the sorbent and backup sorbent layers in tube 2, by the activity found in the 1800 mg sorbent layer of tube 1. Under these conditions, breakthrough was found to be <0.01% (**Table 3**).

<b>Table 3</b> Breakthrough Measurements for 160 ppm <sup>14</sup> C-D <sub>5</sub> /D <sub>5</sub> Exposure Atmosphere Collected at ~1.8 L/min						
Sample Number	Counts (dpm) <sup>a</sup>					Percent Breakthrough
	Tube 1, Front (A)	Tube 1, Back (B)	Tube 2, Front (C)	Tube 2, Back (D)	Sum (B)+(C)+(D)	
1	489245	2	64	0	66	0.01
2	494022	0	61	1	62	0.01

a: Activity of <sup>14</sup>C-D<sub>5</sub> = 1.08 mCi/g.

## 2.4. Test System

### 2.4.1. Test Animals

Male and female Fischer 344 rats (Charles River, Raleigh, NC) were selected for this study since this species and strain has been used in previous toxicity studies with this test article. Test system information is summarized in **Table 4**.

<b>Table 4</b> Test System	
Species:	<i>Rattus norvegicus</i>
Strain:	Fischer 344 CDF (F-344/CrlBR)
Source:	Charles River Laboratories, Raleigh, NC
Number/Sex:	110 males and 110 females plus spares of each sex
Date Received:	69 males and 70 females received 6/3/99 (Date of Birth 4/6/99) – 7-ppm Group 70 males and 70 females received 7/7/99 (Date of Birth 5/4/99) – 160-ppm Group
Age:	10-11 weeks at exposure (Protocol deviation. See <b>Appendix A</b> .)
Pre-Exposure Mean Body Weight (±SD):	7-ppm Group: Males = 217.0 ± 7.3 g, Females = 144.6 ± 3.8 g 160-ppm Group: Males = 198.7 ± 5.8 g, Females = 128.2 ± 3.2 g
Identification:	Tattoo
Acclimation Period:	~2 weeks
Released for Study:	Released for study by laboratory animal veterinarian on 6/21/99 (7-ppm Group) and 7/13/99 (160-ppm Group)

### 2.4.2. Animal Health and Husbandry

Animal shipping crates were examined on arrival for evidence of conditions likely to allow exposure to pathogens (soiled, wet, or otherwise damages). All crates were in good condition. The rats were quarantined and acclimated in Room 425 of LSL-II prior to the exposure. While being removed from the crates at the door of the

quarantine room, the rats were examined for evidence of shipping stress. One male rat was found dead upon receipt on 6/3/99, cause unknown. The remaining rats did not exhibit significant signs of stress.

A health screen was performed on each shipment, three rats/sex. The health screen for the 6/3/99 shipment was performed on 6/3/99, and for the 7/7/99 shipment on 7/8/99. The rats were examined by gross necropsy and microscopic examination of selected tissues for evidence of infection and other disease. No evidence of significant infection or other disease was found in these animals.

During the quarantine period, prior to the start of exposure, rats were placed in nose-only exposure restraint tubes for consecutive daily intervals of 1, 2, 4, and 6 hr to allow them to adapt to confinement in the tubes.

Rats were randomly selected for assignment to the study on the basis of body weight using the Xybion PATH/TOX System. Any rats outside  $\pm 20\%$  of the group mean were excluded from the study. Animals not assigned to the study, used for health screens, or for the collection of control tissues were euthanized by inhalation of CO<sub>2</sub>. The disposition of these rats was recorded on the animal disposition record, which is retained in the study files.

Except for those rats placed into glass metabolism cages, animals were housed in wire-bottom cages placed in a whole-body holding chamber (H-2000; Harford System, Inc., Aberdeen, MD) after removal from the inhalation unit until the time of euthanasia. Cage size was consistent with AAALAC recommendations for rats of this size.

Purina 5002, pelleted, certified rodent diet (LabDiet PMI Nutrition International, Richmond, IN) was fed *ad libitum* except when rats were in restraint tubes or glass metabolism cages. While in glass metabolism cages, rats were fed powdered Purina 5002. Fresh tap water was also supplied *ad libitum* via an automatic watering system (Edstrom Industries, Waterford, WI) except when animals were in restraint tubes or metabolism cages. The polycarbonate and glass metabolism cages were equipped with water bottles. There were no known contaminants in the food or water that would alter the outcome of the study.

Twelve hours of light and 12 hours of dark were provided in the animal rooms. A fluorescent light source was used with lights turned on at ~6:00 AM each day. The light cycle was interrupted periodically to allow for completion of study activities. Such interruptions were necessary for the conduct of the study and were considered not to have impacted the study outcome. These interruptions are documented in the study files.

**2.5. Study Design**

Rats (53/sex/exposure group) were exposed via nose-only inhalation for a single 6-hr period to <sup>14</sup>C-D<sub>5</sub> at a target concentration of 7 ppm (Group 1) or 160 ppm (Group 2). The target radioactivity exposure was 60-80 μCi/rat for both exposure groups. An additional 4 rats/sex (2/sex/shipment) were used as controls to establish background matrix effects on measurement of radioactivity. The control rats were confined in restraining tubes for the same length of time as the <sup>14</sup>C-D<sub>5</sub>-exposed rats, but were kept in a separate room to avoid contamination. The basic study design is summarized in **Table 5**.

The inhalation route was selected since this is a potential route of exposure in humans.

<b>Table 5</b> Basic Study Design							
Group	Target D <sub>5</sub> Concentration (ppm) <sup>a</sup>	Study Component/Animal Numbers					
		Body Burden		Distribution		Mass Balance	
		Male	Female	Male	Female	Male	Female
1	7	1001-1008	1501-1508	1009-1048	1509-1548	1049-1053	1549-1553
2	160	2001-2008	2501-2508	2009-2048	2509-1548	2049-2053	2549-2553
3a	0	4001	4501	4003	4503	4003	4503
3b	0	4002	4502	4004	4504	4004	4504

a: Target radioactivity concentration (60-80 μCi/rat).

### 2.5.1. Body Burden Subset

Following the 6-hr exposure period each body burden rat was briefly removed from the exposure system (~2 minutes), given a lethal intraperitoneal injection of sodium pentobarbital, and then placed back on the exposure system.

Body Burden Subset, 1a (7 ppm) and 2a (160 ppm): Following euthanasia, rats from this group (4/sex/exposure group) were removed from the restraint tubes. The restraint tubes were rinsed with 70% ethanol to remove urine and feces. The tube rinse, urine, and feces were analyzed together for  $^{14}\text{C}$ . All gloves and other associated waste generated from this process were retained for  $^{14}\text{C}$  analysis. Each rat was placed in a carcass digestion container that had been pre-filled with the tissue solubilizer solution and a tare weight recorded. The weight of each sample (carcass, gloves and associated waste, and rinse) was also recorded.

Body Burden Subset, 1b (7 ppm) and 2b (160 ppm) [Pelted]: Following euthanasia, rats from this group (4/sex/exposure group) were removed from the restraint tubes. The pelt from each of these rats was removed and placed into a separate container of solubilizer solution (tare weight recorded previously). Each pelted carcass was placed in a carcass digestion container pre-filled with the tissue solubilizer solution (a tare weight was recorded). Each exposure tube was rinsed with 70% ethanol to remove the urine and feces. The rinse, urine, and feces were analyzed together. All gloves and other associated waste generated from this process were retained for analysis. The weight of each sample (carcass, pelt, glove and associated waste, and rinse) was recorded. Data from the body burden rats was used for an estimation of dose (See **Section 2.8**).

Unexposed control rats (1/sex/group 3a and 3b) were treated in the same manner as Groups 1b and 2b, respectively. They were used for determining background matrix effect on measurement of radioactivity.

### 2.5.2. Distribution Subset

Rats in the distribution subset were removed from the exposure tubes and anesthetized with 100% CO<sub>2</sub> at time points during or after the 6-hr exposure period (4 or 5 rats/sex/time point). Blood only was collected from 4 rats/sex at 3 hr after the start of the exposure period. Blood and tissues (See **Section 2.6.2.**) were collected from 4 rats/sex/time point at 0, 1, 3, 12, 24, 48, 72, 96, and 120 post-exposure, and 5 rats/sex/time point at 168 hr post-exposure.

### 2.5.3. Distribution and Elimination Subset (Mass Balance Group)

Rats in the distribution, elimination, and mass balance group were placed in glass metabolism cages where they were housed for 168 hrs. Urine, feces, expired CO<sub>2</sub>, and expired volatiles were collected at the time points shown in **Table 6**. At 168 hr post-exposure, the rats were killed and tissues (see **Section 2.6.2.**) were collected.

Expired Volatiles Collection Time points (hr post-exposure)	Urine, Feces, and Expired CO <sub>2</sub> Collection Time points (hr post-exposure)
0-1	0-6
1-2	6-12
2-4	12-24
4-6	24-48
6-9	48-72
9-12	72-96 <sup>a</sup>
12-24	96-120 <sup>a</sup>
24-48	120-144 <sup>a</sup>
48-72	144-168 <sup>a</sup>
72-96 <sup>a</sup>	--
96-120 <sup>a</sup>	--
120-144 <sup>a</sup>	--
144-168 <sup>a</sup>	--

a: Expired air samples not collected at these time points for Group 1 due to problem with collection system. See protocol deviation for details (**Appendix A**).

## **2.6. Sample Collection**

Sample container tare weights were recorded prior to sample collection, when applicable. The samples were collected and the containers with the samples were re-weighed. The difference between the weights was recorded as the sample weight at time of collection.

### **2.6.1. Blood Collection**

The maximum volume of blood possible (up to 5 mL) was collected by cardiac puncture from each animal designated for blood collection. After collection, blood samples were transferred to heparinized tubes and cooled on ice. After cooling (~10 minutes), 2 aliquots (~100  $\mu$ L) of whole blood were transferred into scintillation vials containing solubilizer:isopropanol (1:1, volume/volume) and weighed. The remaining blood samples were centrifuged, the plasma collected, and duplicate 200- $\mu$ L plasma aliquots transferred into scintillation vials and mixed with liquid scintillation fluid. The remainder of the plasma samples were frozen on dry ice and stored at  $-70 \pm 10^{\circ}\text{C}$ .

### **2.6.2. Tissue Collection**

As quickly as possible following euthanasia, the following tissues (**Table 7**) were collected, dissected free of fat (when applicable), and weighed. With the exception of liver, lungs, and the second fat sample, tissues were processed immediately by solubilization *in toto*.

<b>Table 7</b> Tissues Collected for Distribution Study			
Males		Females	
Liver	Thymus	Liver	Spleen
Lungs	Thyroid	Lungs	Pancreas
Perirenal Fat	Stomach	Perirenal Fat	Thymus
Testes	Small Intestine	Ovaries	Thyroid
Nasal Cavity	Large Intestine	Uterus	Stomach
Kidney	Remaining Carcass <sup>a</sup>	Vagina	Small Intestine
Adrenals		Nasal Cavity	Large Intestine
Spleen		Kidney	Remaining Carcass <sup>a</sup>
Pancreas		Adrenals	

a: Only mass balance group (5/sex/exposure group)

All tissue digests were stored at room temperature prior to radioactivity measurements.

Fat samples were divided into two portions and each portion weighed. One portion was processed for radioactivity measurement (solubilized and stored at room temperature prior to measurement). The second portion was stored at  $-70 \pm 10^{\circ}\text{C}$  for shipment to DCC for analysis. Liver and lung samples were homogenized in ice-cold, isotonic saline. Duplicate aliquots of each homogenate were processed for radioactivity measurement. The remaining homogenate was divided in up to four  $\sim 200 \mu\text{L}$  aliquots and stored at  $-70 \pm 10^{\circ}\text{C}$  along with any remaining homogenate.

### 2.6.3. Urine, Feces and Expired Air Collection

Immediately after exposure completion, the 168-hr animals were placed into all-glass metabolism cages (Crown Glass Co., Somerville, NJ) suitable for the separate collection of excreta (urine and feces) and expired air ( $\text{CO}_2$  and other volatiles). In addition, the excreta that accumulated in the exposure tube during the 6-hr exposure period was collected and the exposure tube rinsed with an appropriate volume of 70% ethanol. The excreta and tube rinse from each animal were combined and analyzed together.

The control rats were housed in polycarbonate metabolism cages for collection of excreta, urine, and feces, for  $\sim 24$  hr. These rats were euthanized after

the 24-hr collection, and blood, plasma, and tissues were collected and processed for radioactivity measurements in the same manner as those from the exposed animals. The data from these animals were used to check the matrix effect on measurement of radioactivity.

Urine, feces, expired CO<sub>2</sub>, and expired volatiles were collected from the mass balance group (168-hr) rats at the time points designated in **Table 6**. Urine and feces were collected over dry ice. The expired CO<sub>2</sub> was trapped in a single 3.4 N potassium hydroxide (KOH) trap (see protocol deviation, **Appendix A**). Other expired volatiles were trapped with the charcoal tubes, which were capped and stored at  $-20 \pm 10^{\circ}\text{C}$  until analyzed.

Cage rinses (70% ethanol/water followed by distilled water) were performed at 168 hr post-exposure. Aliquots of both rinses (70% ethanol/water and distilled water) were retained for determination of radioactivity content.

After sample collection at 168 hr post-exposure, the animals were anesthetized with 100% CO<sub>2</sub>. Whole blood, plasma, and tissues, including the remaining carcass, were collected and processed for radioactivity and parent compound analysis in the same manner as described for the distribution group. The excreta and expired CO<sub>2</sub> samples were weighed after collection and the samples processed for radioactivity analysis.

## **2.7. Sample Analysis**

All samples were assayed for total radioactivity. Selected urine and feces samples from all exposure groups were analyzed for radioactivity metabolite profiles. Samples of volatile trapping media collected up to 48 hr were analyzed for D<sub>5</sub>. D<sub>5</sub> concentrations in plasma, liver and lung homogenates, and fat were also determined. Sample radioactivity, metabolite profiles, and volatile trapping media assays were conducted at Battelle. Measurements of D<sub>5</sub> concentrations in plasma, liver and lung homogenates, and fat were conducted at DCC.

### **2.7.1. Radioactivity Analysis**

Radioactivity was measured by liquid scintillation spectrometry (LSS). Each sample was counted for 10 minutes or a 2 sigma error of 2%, whichever came first. Liver and lung samples were homogenized with ice-cold, isotonic saline (~1:2, tissue:saline) and duplicate samples were removed, weighed, and solubilized with tetraethyl ammonium hydroxide (TEAH). These samples were neutralized with hydrochloric acid (HCl) prior to the addition of liquid scintillation cocktail and radioactivity measurement. The feces were homogenized with deionized water (~3:1, water:feces) and duplicate samples were removed, weighed, and solubilized with TEAH. These samples were incubated overnight at ~50°C, then hydrogen peroxide (H<sub>2</sub>O<sub>2</sub>) and isopropyl alcohol (IPA) were added prior to the addition of liquid scintillation cocktail and radioactivity measurement. Whole blood was solubilized with solubilizer:IPA (1:1). These samples were incubated for ~15 minutes at ~50°C, then H<sub>2</sub>O<sub>2</sub> was added (to decolorize) and samples were incubated again for ~15 minutes at ~50°C prior to the addition of liquid scintillation cocktail and radioactivity measurement. Radioactivity collected by charcoal tubes (expired volatiles collection media) was extracted (~1 hour) with toluene and duplicate samples of the extract were combined with liquid scintillation cocktail prior to radioactivity measurement. Radioactivity associated with gloves (along with associated lab waste for processing animals) was extracted with 70% ethanol (EtOH:water) and duplicate samples of the extract were combined with liquid scintillation cocktail prior to radioactivity measurement. Plasma, urine, KOH (expired CO<sub>2</sub> trapping media), and cage rinses (70% EtOH:water and deionized water) were added directly to liquid scintillation cocktail prior to radioactivity measurement. Solubilizer was added to the 70% EtOH:water cage rinses to solubilize any feces recovered in cage rinse prior to adding directly to cocktail. The remaining samples were solubilized with TEAH and duplicate aliquots removed, weighed, and neutralized with HCl prior to the addition of liquid scintillation cocktail and radioactivity measurement.

### **2.7.2. Measurement of D<sub>5</sub> Concentrations in Expired Volatiles**

Samples of volatile trapping media collected up to 48 hr post-exposure were analyzed for D<sub>5</sub> by gas chromatography-mass spectrometry (GC-MS). Details of the sample preparation, equipment, and parameters used for these assays are presented in **Appendix C**. Sorbent sample tubes previously frozen at  $-20 \pm 10$  °C were thawed at room temperature, the contents placed in a glass vial containing 10 mL solvent and an internal standard (M<sub>4</sub>Q), and vortexed thoroughly. Following at least a 15-min rest period, a 2-mL aliquot was dried for 30 min over magnesium sulfate, centrifuged and the supernatant placed in an autosampler vial for GC-MS analysis.

### **2.7.3. Measurement of D<sub>5</sub> Concentrations in Plasma, Liver and Lung Homogenates, and Fat**

Measurements of D<sub>5</sub> concentrations in plasma, liver and lung homogenates, and fat were conducted by GC-MS at DCC. Data from stability studies conducted at Battelle are presented in **Appendix D**. DCC's study report on these analyses is presented in **Appendix E**.

### **2.7.4. Metabolite Profile Analysis**

Metabolite profiles, based on radioactivity only, were determined on urine and feces samples using HPLC with radiometric detection. Details of the sample preparation, equipment, and parameters used for these assays are presented in **Appendix F**.

## 2.8. Radioactivity Data Analysis

D<sub>5</sub> doses ( $\mu\text{Ci}/\text{kg}$  body weight) were based on the radioassay of whole rat bodies with pelts intact, and whole rat bodies with the pelt removed and assayed separately. The body burden dose for an animal with pelt intact was calculated by adding the contributions from the whole rat body, exposure tube rinses (including urine and feces rinsed from exposure tubes), and gloves with associated lab waste from handling the animal (i.e., paper towels, gauze pad, etc.). The body burden dose for an animal with the pelt removed and assayed separately was calculated by adding the contributions from the whole rat body (without pelt), pelt, exposure tube rinses (including urine and feces rinsed from exposure tubes), and gloves with associated lab waste from handling the animal. The mass balance dose was calculated as the total amount of radioactivity recovered from the mass balance animals relative to the body burden dose and normalized to 100%.

The achieved dose ( $\mu\text{Ci}$ ) was calculated by multiplying the normalized minute volume ( $\text{L}/\text{min}\cdot\text{kg}$ ) by the body weight ( $\text{kg}$ ), exposure duration ( $\text{min}$ ), achieved mean <sup>14</sup>C-D<sub>5</sub> vapor concentration ( $\text{mg}/\text{L}$ ), and specific activity of <sup>14</sup>C-D<sub>5</sub> solution ( $\mu\text{Ci}/\text{mg}$ ). The average respiratory minute volumes ( $\text{L}/\text{min}$ ) for male and female rats were determined from Battelle SN N003442A (DCC SN 9103)<sup>2</sup>.

Sample radioactivity concentrations were calculated as microgram equivalents <sup>14</sup>C-D<sub>5</sub> per gram of sample ( $\mu\text{g}$  <sup>14</sup>C-D<sub>5</sub>/g).

### 2.8.1. Radioactivity Dose Recovery

The dose recovery calculations were completed as follows:

$$A_{\text{sample}} = C_{\text{sample}} \times M_{\text{sample}}$$

where  $A_{\text{sample}}$  is the radioactivity ( $\mu\text{Ci}$ ) in the sample,  $C_{\text{sample}}$  is the radioactivity concentration in the sample ( $\mu\text{Ci}/\text{g}$ ), and  $M_{\text{sample}}$  is the total mass ( $\text{g}$ ) of sample. Total masses for some samples (e.g. blood, plasma, and fat) were estimated from

the body mass of the individual animals and on data available in the literature.<sup>3</sup> The sample radioactivity was then divided by the total radioactivity in the dose determined for each animal to obtain percent recovery (%R):

$$\%R = 100 \times A_{\text{sample}}/A_{\text{dose}}$$

where  $A_{\text{sample}}$  is the measured radioactivity ( $\mu\text{Ci}$ ) in the sample and  $A_{\text{dose}}$  is the radioactivity ( $\mu\text{Ci}$ ) in the dose for each animal. The dose radioactivity was calculated as:

$$A_{\text{dose}} = B \times D$$

where B is the pre-exposure animal mass (kg) and D is the mean dose estimate ( $\mu\text{Ci}/\text{kg}$ ) calculated for either the body burden animals or mass balance animals.

## **2.8.2. Pharmacokinetics of Radioactivity**

The maximum concentration in each tissue ( $C_{\text{max}}$ ) and time of maximum concentration ( $T_{\text{max}}$ ) were determined by inspection.  $T_{\text{max}}$  values were determined in hours from the end of exposure. The area under the concentration-time curves (AUC) from time zero to the last measurable concentration (tf) was calculated by the trapezoidal rule. The estimated terminal-phase half-life ( $t_{1/2}$ ) was determined by dividing 0.693 (ln 2) by the terminal-phase rate constant (k). The terminal-phase rate constant (k) was calculated from the last three (nonzero) points of the log-linear regression line.

## **2.8.3. Statistical Analysis**

Statistical analyses (ANOVA) were performed to compare the normalized recovery of radioactivity in the excreta, expired volatiles, expired  $^{14}\text{CO}_2$ , and total recoveries with respect to gender and exposure concentration for data collected from the mass balance animals. The homogeneity of variance within the data sets was assessed with Bartlett's test.

### 3.0. RESULTS AND DISCUSSION

#### 3.1. Study Exposure and Environmental Monitoring Data

Details on the test atmosphere generation and exposure system are presented in **Appendix B**. During the generation periods, the GC sampled the test atmosphere from an exposure unit every ~6 minutes. **Table 8** is a summary of the concentration data during exposures. **Table 8** shows the nominal concentration for each test exposure as determined from the gravimetrically determined quantity of test material delivered by the syringe pump during the generation interval and the generator airflow. This table also shows the percent ratio of nominal concentration to the analytically determined concentration in each exposure unit during the same period.

Exposure unit environmental conditions were monitored every 2 hours during the 6-hour exposure period. The results are summarized in **Table 9**.

For the time when animals were housed in the whole-body holding chamber temperature and relative humidity were monitored every ~60 minutes. The results are summarized in **Table 10**.

All exposure concentrations and environmental conditions were within protocol-specified limits.

Measurement Parameter	7-ppmTarget <sup>a</sup>	160-ppmTarget <sup>b</sup>
Mean Concentration (ppm)	6.9	167.3
SD	0.2	3.7
%of Target Concentration	98	105
%RSD	3	2
n	30	35
Nominal Concentration (ppm) <sup>c</sup>	7.5	155.3
Nominal/Measured (%)	109	93

a: Exposure date was 6/22/99.  
 b: Exposure date was 7/14/99.  
 c: Determined from the gravimetrically determined quantity of test material delivered by the syringe pump during the generation interval and the generator airflow.

Measurement Parameter	7-ppm Target <sup>a</sup>		160-ppm Target <sup>b</sup>	
	Unit 1	Unit 2	Unit 1	Unit 2
Mean Temperature (°C)	26	25	25	26
SD	1	1	1	1
Maximum Temperature (°C)	27	26	26	27
Minimum Temperature (°C)	24	24	25	25
n	4	4	4	4
Mean %RH	43	42	41	35
SD	2	2	1	4
Maximum %RH	45	44	42	39
Minimum %RH	41	40	40	32
n	4	4	4	4

a: Exposure date was 6/22/99.  
 b: Exposure date was 7/14/99.

Measurement Parameter	7-ppm Target <sup>a</sup> (n=124)	160-ppmTarget <sup>b</sup> (n=137)
Mean Temperature (°C)	22	23
SD	1	1
Maximum Temperature (°C)	26	25
Minimum Temperature (°C)	21	22
Mean %RH	47	49
SD	6	2
Maximum %RH	59	55
Minimum %RH	35	43

a: Monitoring dates were 6/22/99 to 6/27/99.  
 b: Monitoring dates were 7/14/99 to 7/20/99.

### 3.2. Dose

Mean ( $\pm$  SD) body weights and dose values for male and female rats from Groups 1 and 2 are summarized below in **Table 11**. Achieved dose was calculated as described in **Section 2.8**. Individual animal and group mean achieved dose, body burden dose, and body burden as percent of achieved dose in male and female body burden animals (Groups 1a, 1b, 2a, and 2b) are reported in **Table 15** through **Table 18**.

Group ID	Body Weight (kg) <sup>a</sup>	Calculated Achieved Dose ( $\mu$ Ci) <sup>a</sup>	Body Burden Dose ( $\mu$ Ci/kg) <sup>a</sup>	Body Burden Dose ( $\mu$ Ci) <sup>a</sup>	Body Burden as % of Achieved Dose <sup>a</sup>
Group 1 – 7 ppm					
Male	0.2157 $\pm$ 0.0059	124 $\pm$ 4	10.5 $\pm$ 1.7	2.26 $\pm$ 0.38	1.82 $\pm$ 0.29
Female	0.1451 $\pm$ 0.0042	71.7 $\pm$ 2.1	7.19 $\pm$ 1.93	1.05 $\pm$ 0.31	1.46 $\pm$ 0.39
Group 2 – 160 ppm					
Male	0.2017 $\pm$ 0.0033	137 $\pm$ 2	13.7 $\pm$ 1.8	2.76 $\pm$ 0.34	2.02 $\pm$ 0.26
Female	0.1287 $\pm$ 0.0035	75.3 $\pm$ 2.0	12.5 $\pm$ 4.4	1.60 $\pm$ 0.56	2.13 $\pm$ 0.75

a: Mean  $\pm$  SD, n = 8.

The mean body burden dose as a percent of achieved dose for male and female rats in the 7- and 160-ppm exposure groups was 1.86  $\pm$  0.29% (mean  $\pm$  SD,

n = 4). Thus, ~2% of the inhaled test material was retained. As expected, based on differences in body weights and normalized minute volumes (mean ± SD) determined from Battelle SN N003442A (DCC SN 9103)<sup>2</sup> for male (810 ± 71 mL/min/kg) and female (699 ± 152 mL/min/kg) rats, the calculated achieved doses were ~70-80% higher for the males as compared to the females. The actual body burden doses (μCi) were somewhat larger than predicted, ~70-115% higher for the males as compared to the females.

The mean percents of body burden dose recovered in tissues, excreta, and expired air from male and female mass balance animals in each exposure group are shown below in **Table 12**. The mean recovery of body burden dose in tissues ranged from 8.6 to 10.4%. The combined mean recoveries of tube rinses, urine, feces, and cage rinses ranged from 54.9 to 84.1%. The percent dose recovered in the expired volatiles for the male rats was 3 to 4 times higher than the females (9.2 and 11.3% recovered for the 7- and 160-ppm exposure group males compared to 3.0 and 2.7% recovered for the 7- and 160-ppm exposure group females, respectively). The mean recovery of body burden dose in expired <sup>14</sup>CO<sub>2</sub> ranged from 3.6 to 5.1%. The mean total recoveries ranged from 71.8 to 110%.

Group	Mean % Body Burden Dose (%RSD, n = 5)							
	Tissue <sup>a</sup>	Tube Rinse <sup>b</sup>	Urine	Feces	Cage Rinse <sup>c</sup>	Expired Volatiles	Expired <sup>14</sup> CO <sub>2</sub>	Total Recovery
7-ppm Male	8.58 (14)	1.88 (40)	33.4 (23)	21.4 (22)	2.95 (46)	9.18 (23)	5.11 (15)	82.5 (15)
7-ppm Female	10.4 (44)	3.43 (82)	28.2 (50)	21.4 (44)	1.91 (57)	2.97 (62)	3.64 (41)	71.8 (47)
160-ppm Male	9.35 (6)	3.30 (121)	29.4 (10)	50.3 (12)	1.09 (15)	11.3 (16)	4.93 (12)	110 (11)
160-ppm Female	9.16 (34)	5.16 (98)	21.6 (31)	33.6 (29)	3.60 (111)	2.66 (56)	3.61 (29)	79.5 (32)

a: Total does not include fat, plasma, or whole blood. Fat is accounted for in the carcass contribution.  
 b: 70% ETOH was used to rinse exposure tube to collect excreta.  
 c: Value is the sum of 70% ETOH and water cage rinse.

The most notable difference in mean recoveries when comparing groups is the ~50% recovery in feces for the 160-ppm male rats as compared to 21% for the

male and female rats in the 7-ppm group and 34% for the 160-ppm female rats. This 20 to 30% difference in fecal recovery accounts for most of the variability in the total recoveries between the groups. The total recovery for the 160-ppm male rats is 110% compared to 83, 72, and 80% for the 7-ppm male and female rats, and 160-ppm female rats, respectively. Individual animal and group mean percents of body burden dose recovered in tissues, excreta, and expired air from male and female mass balance animals in each exposure group are shown in **Table 19**.

Based on whole-body radioactivity analysis, the measured doses ( $\mu\text{Ci}/\text{kg}$ ) for male and female rats in the 7- and 160-ppm exposure groups ranged from 7.19 to 13.7  $\mu\text{Ci}/\text{kg}$  with %RSDs ranging from 13 to 35% (calculated from **Table 11**). This variability in the measured dose is likely a combination of several factors, including the variability of the mean minute volume (9% for male rats and 22% for female rats) determined from Battelle SN N003442A (DCC SN 9103)<sup>2</sup> and used in the calculation for the “Calculated Achieved Dose”. There is also some variability in the mean exposure concentrations (2-3%) and the radioactivity measurements, as well as inherent biological variability. In addition, there was considerable variability in measured radioactivity in the excreta (10-50%), expired air (12-62%), and tissues (6-44%; **Table 12**).

### 3.3. Distribution

Individual animal and group mean tissue radioactivity concentrations ( $\mu\text{g equiv}/\text{g}$ ) in 7-ppm male and female rats at 3 hr after the start of exposure (plasma and whole blood only), and at 0, 1, 3, 12, 24, 48, 72, 96, 120, and 168 hr post-exposure are shown in **Table 20** through **Table 30** (males), and **Table 31** through **Table 41** (females). The same data for the 160-ppm exposure group are shown in **Table 42** through **Table 52** (males), and **Table 53** through **Table 63** (females). Individual animal and mean tissue concentrations expressed as dpm/g, percent of body burden dose, and percent of mass balance dose are provided in **Appendix G**.

The highest concentrations of radioactivity ( $>1 \mu\text{g equiv/g}$ ) immediately following exposure (0 hr) for male and female rats in the 7-ppm exposure group were in the small and large intestines, stomach, thyroid (male only), lung, and adrenal gland. The highest concentrations of radioactivity ( $>30 \mu\text{g equiv/g}$ ) immediately following exposure (0 hr) for male and female rats in the 160-ppm exposure group were in the small and large intestines, stomach, lung, adrenal gland, and liver. Peak radioactivity concentrations in the small intestine were observed at 1 hr post-exposure for all groups. Peak radioactivity concentrations in the large intestine were observed at 1 hr post-exposure for the 7-ppm female rats and at 3 hr post-exposure for the other groups. At the end of the exposure (0 hr), the 7-ppm male and female rats retained  $\sim 1.3\%$  of the body burden dose in the lung (**Appendix G**). The 160-ppm male and female rats retained  $\sim 1.7\%$  of the body burden dose in the lung at 0 hr post-exposure (**Appendix G**). The lowest concentrations were found in the plasma, whole blood, testes, uterus, and vagina. The overall tissue distribution profile for radioactivity was similar for all groups.

Maximum plasma concentrations occurred at the end of exposure (0 hr) for all groups and dropped to  $\leq 3\%$  of the 0-hr levels by 168 hr post-exposure. Individual animal and group mean tissue-to-plasma concentration ratios are shown in **Table 64** through **Table 107**. In general, tissue-to-plasma concentration ratios increased from 0 to 168 hr post-exposure with the exception of the large and small intestines and the stomach. The highest tissue-to-plasma concentration ratios were found in the large and small intestines at 0 hr post-exposure and in the lung, perirenal fat, adrenal gland, thymus, and thyroid at 168 hr post-exposure.

$D_5$  levels in the plasma, liver, lung, and fat were determined at DCC (see Appendix E for details). Plasma, liver, lung, and fat analysis from the 160-ppm group indicated that  $D_5$  concentrations were highest in the lung as compared to the plasma, liver and fat. The  $D_5$  levels decreased rapidly with time in both sexes in the liver and lung, while remaining fairly constant in the fat samples. These results were also observed at the 7-ppm dose. Statistical analysis of the time course of the  $D_5$  levels for 160-ppm group fat and liver samples indicated no gender effects.

However, in both the lungs and plasma of the 160-ppm group, the AUC for D<sub>5</sub> was significantly greater in the male rats.

### **3.4. Pharmacokinetics of Total Radioactivity and D<sub>5</sub>**

Concentration-time data for total radioactivity are shown in **Table 108** through **Table 111**. Plasma concentration-time data for D<sub>5</sub> and total radioactivity are summarized in **Table 13** and presented graphically in **Figure 1** and **Figure 2**. Tissue concentration-time data for total radioactivity plotted with plasma data as a reference are shown in **Figure 3** through **Figure 38**.

**Table 13** Plasma D<sub>5</sub> and Total Radioactivity Concentrations in Male and Female Rats During and Following a Single, Nose-Only, Vapor Inhalation Exposure to <sup>14</sup>C-D<sub>5</sub>

Time Point (hr post-exposure)	7-ppm Exposure					
	Group 1 – Male Rats			Group 1 – Female Rats		
	D <sub>5</sub> (µg/g) <sup>a</sup>	Radioactivity (µg equiv/g) <sup>b</sup>	D <sub>5</sub> /Radioactivity (%)	D <sub>5</sub> (µg/g) <sup>a</sup>	Radioactivity (µg equiv/g) <sup>b</sup>	D <sub>5</sub> /Radioactivity (%)
-3 <sup>c</sup>	0.04	0.0815 (19)	49	BLQ	0.0351 (72)	--
0	BLQ <sup>f</sup>	0.158 <sup>d</sup> (16)	--	BLQ	0.0713 <sup>d</sup> (35)	--
1	BLQ	0.105 (40)	--	BLQ	0.0455 (48)	--
3	BLQ	0.0815 (24)	--	BLQ	0.0200 (50)	--
12	BLQ	0.0349 (37)	--	BLQ	0.0234 (67)	--
24	BLQ	0.0233 (16)	--	BLQ	0.0175 (36)	--
48	Not analyzed	0.0145 (22)	--	Not analyzed	0.00637 (69)	--
72	Not analyzed	0.0105 (15)	--	Not analyzed	0.00414 (56)	--
96	Not analyzed	0.00728 (7)	--	Not analyzed	0.00381 (59)	--
120	Not analyzed	0.00580 (25)	--	Not analyzed	0.00351 (58)	--
168	Not analyzed	0.00476 (34)	--	Not analyzed	0.00149 (66)	--
AUC(tf) <sup>e</sup>	--	3.05	--	--	1.49	--
Time Point (hr post-exposure)	160 ppm Exposure					
	Group 2 – Male Rats			Group 2 – Female Rats		
	D <sub>5</sub> (µg/g) <sup>a</sup>	Radioactivity (µg equiv/g) <sup>b</sup>	D <sub>5</sub> /Radioactivity (%)	D <sub>5</sub> (µg/g) <sup>a</sup>	Radioactivity (µg equiv/g) <sup>b</sup>	D <sub>5</sub> /Radioactivity (%)
-3 <sup>c</sup>	1.93	1.69 (14)	114	1.94	1.57 (42)	124
0	3.60	3.33 <sup>d</sup> (7)	108	2.50	2.23 <sup>d</sup> (36)	112
1	1.54	1.99 (12)	77	0.98	1.32 (51)	74
3	1.21	2.06 (6)	59	0.37	0.850 (37)	44
12	0.19	0.766 (7)	25	BLQ	0.487 (12)	--
24	BLQ	0.404 (16)	--	BLQ	0.255 (40)	--
48	BLQ	0.199 (20)	--	BLQ	0.126 (52)	--
72	BLQ	0.119 (11)	--	BLQ	0.103 (48)	--
96	BLQ	0.0923 (29)	--	BLQ	0.0686 (28)	--
120	BLQ	0.0712 (11)	--	BLQ	0.0661 (10)	--
168	BLQ	0.0444 (4)	--	BLQ	0.0278 (42)	--
AUC(tf) <sup>e</sup>	--	54.9	--	--	35.7	--

a: Values are means  
 b: Values are mean (% relative standard deviation [RSD], n = 4 except 168 hr post-exposure where n = 5).  
 c: 3 hr after the start of exposure.  
 d: Plasma radioactivity C<sub>max</sub> (plasma radioactivity T<sub>max</sub> = 0 hr for all groups).  
 e: Units are µg · hr/g for D<sub>5</sub> and µg equiv · hr/g for radioactivity. Time at final measurable concentration (tf) is 168 hr unless otherwise indicated.  
 f: Below the limit of quantitation (BLQ).

Plasma D<sub>5</sub> levels were determined at DCC (see Appendix E for details). Very little D<sub>5</sub> was detected in the plasma collected from the 7ppm group. Only one male rat had a plasma sample that was quantifiable (above the limit of quantitation). For the 160ppm group, D<sub>5</sub> was detected up to 12 hr post-exposure in the males and 3 hr post-exposure in the females. The %D<sub>5</sub>/radioactivity declined from the initial measurement at –3 hr post-exposure until the timepoints noted above.

### 3.5. Excretion of Radioactivity

The mean percents of body burden dose recovered in tissues, excreta, and expired air from male and female mass balance animals in each exposure group are shown above in **Table 12**. Individual animal and group mean percents of body burden dose recovered in excreta from male and female mass balance animals in each exposure group at various time points up to 168 hr post-exposure are presented in **Appendix G**. Excretion rates calculated as  $\mu\text{g equiv/hr}$  are also shown for urine and feces in **Appendix G**. The combined mean recoveries of tube rinses, urine, feces, and cage rinses ranged from 55 to 84%.

The mean percent of body burden dose recovered in the urine of male and female rats in the 7-ppm exposure group were 33 and 28%, respectively, as compared to 29 and 22% for the male and female rats in the 160 ppm exposure group. The recovery in feces for the 160 ppm male rats was 50% compared to 21% for the male and female rats in the 7-ppm group and 34% for the 160 ppm female rats. As mentioned in **Section 3.2**, this 20 to 30% difference in recovery accounts for most of the difference in the total recoveries between the groups. The total recovery for the 160 ppm male rats is 110% compared to 83, 72, and 80% for the 7-ppm male and female rats and 160 ppm female rats, respectively.

### 3.6. Expiration

Individual animal and group mean radioactivity concentrations for the expired volatiles and expired  $^{14}\text{CO}_2$  samples collected up to 168 hr post-exposure from animals in the mass balance groups are shown in **Table 112** through **Table 115** and **Table 116** through **Table 119**, respectively. Individual animal and group mean percents of body burden dose recovered in expired volatiles and expired  $^{14}\text{CO}_2$  samples are presented in **Appendix G**. Expiration rates calculated as  $\mu\text{g equiv/hr}$  are also shown for expired volatiles and expired  $^{14}\text{CO}_2$  samples in **Appendix G**. Values for the combined mean percent of body burden dose recovered in the expired volatiles and  $^{14}\text{CO}_2$  samples from male and female rats in the 7-ppm exposure group were 14 and 7% compared to 16 and 6% for the male and female rats in the 160-ppm exposure group, respectively.

The mean percent dose recovered in the expired volatiles for the male rats was 3 to 4 times higher than for the females (9 and 11% recovered for the 7- and 160-ppm exposure group males compared to 3% recovered for both the 7- and 160-ppm exposure group females, respectively). The relative difference in the percent of expired volatiles between males and females regardless of exposure concentration may indicate gender differences in the metabolism and/or distribution of  $\text{D}_5$ . Although the concordance between  $\text{D}_5$  measured by GC-MS and  $^{14}\text{C}$  is poor (**Table 14**), the relative difference between males and females is approximately the same for GC-MS measurements as for the radioactivity measurements.

The mean recovery of body burden dose in expired  $^{14}\text{CO}_2$  ranged from 4% for the females in both exposure groups to 5% for males in both exposure groups. The expired volatiles expiration rates ( $\mu\text{g equiv/hr}$ ) dropped off rapidly after 1 hour post-exposure. Expiration rates at 9-12 hr post-exposure were less than 2% of the initial expired volatile values. Expired  $^{14}\text{CO}_2$  expiration rates took somewhat longer to decline; at 48-72 hours post-exposure expiration rates were ~3-8% of the initial value.

**Table 14** D<sub>5</sub> and Total Radioactivity Concentrations in Expired Volatiles Samples from Male and Female Rats Following a Single, Nose-Only, Vapor Inhalation Exposure to <sup>14</sup>C-D<sub>5</sub>

Time Point (hr post-exposure)	7 ppm Exposure			
	Group 1 – Male Rats		Group 1 – Female Rats	
	D <sub>5</sub> (µg) <sup>a</sup>	Radioactivity (µg equiv) <sup>a</sup>	D <sub>5</sub> (µg) <sup>a</sup>	Radioactivity (µg equiv) <sup>a</sup>
0-1	8.94 (26)	7.38 (27)	2.74 (102)	0.916 (70)
1-2	1.48 (18)	1.11 (18)	0.384 (1)	0.201 (64)
2-4	1.42 (14)	0.967 (11)	0.328 (22)	0.158 (55)
4-6	0.515 (23)	0.399 (20)	<ELOQ <sup>d</sup>	0.0799 (55)
6-9	0.374 (20)	0.298 (19)	<ELOQ <sup>d</sup>	0.0649 (52)
9-12	1.57 (36)	0.136 (14)	2.11 (35)	0.0376 (63)
12-24	8.58 (29)	0.252 (26)	5.85 (20)	0.0668 (44)
24-48	4.55 (16)	0.181 (38)	3.37 (12)	0.0681 (58)
48-72	-- <sup>b</sup>	0.139 (48)	-- <sup>b</sup>	0.0323 (77)
72-96	-- <sup>b</sup>	-- <sup>c</sup>	-- <sup>b</sup>	-- <sup>c</sup>
96-120	-- <sup>b</sup>	-- <sup>c</sup>	-- <sup>b</sup>	-- <sup>c</sup>
120-144	-- <sup>b</sup>	-- <sup>c</sup>	-- <sup>b</sup>	-- <sup>c</sup>
144-168	-- <sup>b</sup>	-- <sup>c</sup>	-- <sup>b</sup>	-- <sup>c</sup>
Time Point (hr post-exposure)	160 ppm Exposure			
	Group 2 – Male Rats		Group 2 – Female Rats	
	D <sub>5</sub> (µg) <sup>a</sup>	Radioactivity (µg equiv) <sup>a</sup>	D <sub>5</sub> (µg) <sup>a</sup>	Radioactivity (µg equiv) <sup>a</sup>
0-1	488 (13)	228 (22)	39.0 (63)	21.1 (59)
1-2	56.6 (23)	21.6 (15)	6.71 (27)	3.97 (31)
2-4	50.5 (8)	24.2 (5)	8.10 (56)	4.87 (57)
4-6	20.2 (13)	10.6 (9)	4.11 (66)	2.04 (64)
6-9	14.5 (17)	9.19 (21)	2.81 (47)	1.99 (46)
9-12	7.95 (16)	5.50 (28)	3.47 (73)	1.13 (57)
12-24	14.7 (11)	13.3 (9)	5.47 (58)	3.16 (56)
24-48	10.8 (7)	9.06 (20)	4.37 (97)	3.08 (81)
48-72	-- <sup>b</sup>	4.01 (21)	-- <sup>b</sup>	1.92 (70)
72-96	-- <sup>b</sup>	1.94 (39)	-- <sup>b</sup>	1.05 (67)
96-120	-- <sup>b</sup>	1.25 (20)	-- <sup>b</sup>	0.738 (61)
120-144	-- <sup>b</sup>	1.02 (19)	-- <sup>b</sup>	0.489 (58)
144-168	-- <sup>b</sup>	0.562 (27)	-- <sup>b</sup>	0.351 (41)

a: Values are mean (%RSD, n = 5).  
 b: D<sub>5</sub> measured in expired volatiles out to 48 hours per protocol. Note: Accidentally measured D<sub>5</sub> in expired volatiles samples out to 72 hours for the 7 ppm exposure – see protocol deviation (**Appendix A**).  
 c: Samples not collected per client approved protocol deviation (**Appendix A**).  
 d: Experimental limit of quantitation (ELOQ).

### 3.7. Metabolism

The metabolite profiles for urine and feces samples up to 72 hr post-exposure were determined by HPLC with radiometric detection. However, due to low amounts of radioactivity in the samples, the metabolite profiles were determined only up to 12 and 48 hr post-exposure for the feces and urine samples, respectively (see **Appendix A** for protocol deviation). Representative HPLC chromatograms for urine and feces extracts at 12 hr post-exposure are shown in **Figure 39** through **Figure 46**. The chromatograms for the 12-hr urine samples appear similar for all groups. In general, peaks were present in the urine metabolite profiles at 3.9, 4.7, 14.6 (major peak), 28.6 and 32.1 minutes. The chromatograms for the 12-hr feces extract samples also appear similar to each other with the major peak eluting at ~57 minutes which corresponds to the retention time for  $^{14}\text{C-D}_5$ . Several of the feces extract samples also showed peaks at 4.4 and 46.1 minutes. Details of the metabolite profile sample preparation, analysis, and acceptance criteria are discussed in **Appendix F**.

### 4.0. CONCLUSIONS

Approximately 2% of the inhaled  $^{14}\text{C}$ -labeled test article was retained regardless of sex or exposure concentration (**Table 11**). Mean percent recovery of body burden dose for the 7-ppm exposure group was approximately 83 and 72% for males and females, respectively, and for the 160-ppm group was approximately 110 and 80%, respectively (**Table 12**). Distribution of radioactivity among tissues and over time was approximately the same for both sexes. However, the percentage of radioactivity cleared as expired volatiles was significantly greater in males than females for both exposure concentrations ( $p \leq 0.01$ ). Radioactivity was excreted in approximately equal amounts in the urine and the feces for all groups except for the 160-ppm males where fecal was greater than urinary excretion (**Table 11**). A metabolite profile analysis using HPLC showed the major  $^{14}\text{C}$ -peak in the feces was

parent D<sub>5</sub>; however, the major peak in the urine did not correspond to <sup>14</sup>C-D<sub>5</sub>. Analyses of the data showed that C<sub>max</sub> occurred at 0 hour post-exposure for most tissues; the predominant exceptions being the thyroid gland in the 160-ppm group (males and females) at 120 hr, and the perirenal fat (males and females) where C<sub>max</sub> varied from 3 – 168 hr post-exposure (**Table 108** through **Table 111**).

## 5.0. REFERENCES

1. TIS# 1997-10000-43682 Characterization of Decamethylcyclopentasiloxane (D<sub>5</sub>).
2. Battelle SN N003442A Non-Regulated Study: Absorption, Distribution, and Excretion (ADE) Study of <sup>14</sup>C-Decamethylcyclopentasiloxane (D<sub>5</sub>) in the Female Rat Following a Single Nose-Only Exposure to <sup>14</sup>C-D<sub>5</sub>. Dow Corning SN 9103.
3. Caster, W.O., Poncelet, J., Simon, A.B., and Armstrong, W.D. 1956. Tissue weights of the rat. I. Normal values determined by dissection and chemical methods. Proc. Soc. Exp. Biol. Med. 91:122-126.

**Table 15** Achieved Dose, Body Burden Dose, and Body Burden as Percent of Achieved Dose Recovered in Male Body Burden Animals at 0 Hr Post-exposure Following a Single, Nose-Only, Vapor Inhalation Exposure to <sup>14</sup>C-D<sub>5</sub> at a Target D<sub>5</sub> Concentration of 7 ppm

Animal Number	Body Weight (kg)	Achieved Dose (μCi)	Body Burden Dose (μCi/kg)	Body Burden Dose (μCi)	Body Burden as % of Achieved Dose
1001	0.2141	123	11.2 <sup>a</sup>	2.40	1.95
1002	0.2130	122	10.9 <sup>a</sup>	2.32	1.90
1003	0.2128	122	11.9 <sup>a</sup>	2.53	2.07
1004	0.2226	128	12.5 <sup>a</sup>	2.78	2.18
1005	0.2137	123	10.8 <sup>b</sup>	2.30	1.88
1006	0.2066	118	7.08 <sup>b</sup>	1.46	1.23
1007	0.2183	125	9.80 <sup>b</sup>	2.14	1.71
1008	0.2247	129	9.59 <sup>b</sup>	2.15	1.67
Mean:	0.2157	124	10.5	2.26	1.82
SD:	0.0059	4	1.7	0.38	0.29
%RSD:	3	3	16	17	16

a: Includes whole body, tubes rinses, and glove waste.

b: Includes carcass (without pelt), pelt, tube rinses, and glove waste.

**Table 16** Achieved Dose, Body Burden Dose, and Body Burden as Percent of Achieved Dose Recovered in Female Body Burden Animals at 0 Hr Post-exposure Following a Single, Nose-Only, Vapor Inhalation Exposure to <sup>14</sup>C-D<sub>5</sub> at a Target D<sub>5</sub> Concentration of 7 ppm

Animal Number	Body Weight (kg)	Achieved Dose (μCi)	Body Burden Dose (μCi/kg)	Body Burden Dose (μCi)	Body Burden as % of Achieved Dose
1501	0.1513	74.8	10.3 <sup>a</sup>	1.55	2.08
1502	0.1449	71.6	8.42 <sup>a</sup>	1.22	1.70
1503	0.1408	69.6	7.41 <sup>a</sup>	1.04	1.50
1504	0.1475	72.9	8.40 <sup>a</sup>	1.24	1.70
1505	0.1502	74.2	7.61 <sup>b</sup>	1.14	1.54
1506	0.1435	70.9	4.87 <sup>b</sup>	0.70	0.99
1507	0.1417	70.0	4.64 <sup>b</sup>	0.66	0.94
1508	0.1407	69.6	5.90 <sup>b</sup>	0.83	1.19
Mean:	0.1451	71.7	7.19	1.05	1.46
SD:	0.0042	2.1	1.93	0.31	0.39
%RSD:	3	3	27	29	27

a: Includes whole body, tubes rinses, and glove waste.

b: Includes carcass (without pelt), pelt, tube rinses, and glove waste.

**Table 17** Achieved Dose, Body Burden Dose, and Body Burden as Percent of Achieved Dose Recovered in Male Body Burden Animals at 0 Hr Post-exposure Following a Single, Nose-Only, Vapor Inhalation Exposure to <sup>14</sup>C-D<sub>5</sub> at a Target D<sub>5</sub> Concentration of 160 ppm

Animal Number	Body Weight (kg)	Achieved Dose (μCi)	Body Burden Dose (μCi/kg)	Body Burden Dose (μCi)	Body Burden as % of Achieved Dose
2001	0.2039	138	14.9 <sup>a</sup>	3.03	2.19
2002	0.2048	139	12.2 <sup>a</sup>	2.49	1.79
2003	0.1991	135	14.2 <sup>a</sup>	2.83	2.10
2004	0.1954	133	14.9 <sup>a</sup>	2.90	2.19
2005	0.2002	136	15.9 <sup>b</sup>	3.18	2.34
2006	0.2043	139	14.7 <sup>b</sup>	3.00	2.16
2007	0.2042	139	11.2 <sup>b</sup>	2.28	1.65
2008	0.2014	137	11.7 <sup>b</sup>	2.35	1.72
Mean:	0.2017	137	13.7	2.76	2.02
SD:	0.0033	2	1.8	0.34	0.26
%RSD:	2	2	13	12	13

a: Includes whole body, tubes rinses, and glove waste.  
 b: Includes carcass (without pelt), pelt, tube rinses, and glove waste.

**Table 18** Achieved Dose, Body Burden Dose, and Body Burden as Percent of Achieved Dose Recovered in Female Body Burden Animals at 0 Hr Post-exposure Following a Single, Nose-Only, Vapor Inhalation Exposure to <sup>14</sup>C-D<sub>5</sub> at a Target D<sub>5</sub> Concentration of 160 ppm

Animal Number	Body Weight (kg)	Achieved Dose (μCi)	Body Burden Dose (μCi/kg)	Body Burden Dose (μCi)	Body Burden as % of Achieved Dose
2501	0.1256	73.4	5.66 <sup>a</sup>	0.71	0.97
2502	0.1324	77.4	10.9 <sup>a</sup>	1.45	1.87
2503	0.1257	73.5	13.5 <sup>a</sup>	1.69	2.30
2504	0.1310	76.6	15.7 <sup>a</sup>	2.05	2.68
2505	0.1286	75.2	7.01 <sup>b</sup>	0.90	1.20
2506	0.1336	78.1	13.1 <sup>b</sup>	1.76	2.25
2507	0.1289	75.4	15.1 <sup>b</sup>	1.95	2.59
2508	0.1240	72.5	18.7 <sup>b</sup>	2.32	3.19
Mean:	0.1287	75.3	12.5	1.60	2.13
SD:	0.0035	2.0	4.4	0.56	0.75
%RSD:	3	3	35	35	35

a: Includes whole body, tubes rinses, and glove waste.  
 b: Includes carcass (without pelt), pelt, tube rinses, and glove waste.

**Table 19** Recovery Summary of Percent of Body Burden Dose in Samples from Male and Female Rats at 168 Hr Following a Single, Nose-Only, Vapor Inhalation Exposure to <sup>14</sup>C-D<sub>5</sub>

Sample Type	Radioactivity (% of Body Burden Dose)							
	1049	1050	1051	1052	1053	Mean	%RSD	n
Group 1 (7ppm) - Male	1049	1050	1051	1052	1053	Mean	%RSD	n
Total Tissues <sup>a</sup>	10.2	8.88	8.70	6.81	8.29	8.58	14	5
Tube Rinses <sup>b</sup>	1.40	1.76	1.10	2.10	3.06	1.88	40	5
Total Urine	43.9	35.6	23.7	27.9	35.7	33.4	23	5
Total Feces	25.9	23.4	23.7	20.7	13.5	21.4	22	5
Total Cage Rinse <sup>c</sup>	4.20	2.26	1.39	4.56	2.35	2.95	46	5
Total Expired Volatiles	10.7	9.24	6.11	11.4	8.48	9.18	23	5
Total Expired <sup>14</sup> CO <sub>2</sub>	6.10	4.76	4.40	4.57	5.73	5.11	15	5
<b>Total % Recovery</b>	<b>102</b>	<b>85.9</b>	<b>69.1</b>	<b>78.0</b>	<b>77.1</b>	<b>82.5</b>	<b>15</b>	<b>5</b>
Group 1 (7ppm) - Female	1549	1550	1551	1552	1553	Mean	%RSD	n
Total Tissues <sup>a</sup>	17.9	7.80	11.1	8.70	6.35	10.4	44	5
Tube Rinses <sup>b</sup>	8.24	1.61	1.83	3.69	1.78	3.43	82	5
Total Urine	52.3	21.0	28.1	22.3	17.1	28.2	50	5
Total Feces	34.0	20.0	27.6	14.1	11.1	21.4	44	5
Total Cage Rinse <sup>c</sup>	3.43	0.607	2.54	1.53	1.43	1.91	57	5
Total Expired Volatiles	4.57	4.13	4.23	1.04	0.865	2.97	62	5
Total Expired <sup>14</sup> CO <sub>2</sub>	6.15	3.05	3.78	2.92	2.31	3.64	41	5
<b>Total % Recovery</b>	<b>127</b>	<b>58.2</b>	<b>79.2</b>	<b>54.3</b>	<b>40.9</b>	<b>71.8</b>	<b>47</b>	<b>5</b>
Group 2 (160 ppm) - Male	2049	2050	2051	2052	2053	Mean	%RSD	n
Total Tissues <sup>a</sup>	10.2	9.07	9.52	9.00	8.95	9.35	6	5
Tube Rinses <sup>b</sup>	10.0	0.0821	3.61	0.487	2.32	3.30	121	5
Total Urine	31.7	28.3	32.9	27.7	26.1	29.4	10	5
Total Feces	53.4	56.3	52.7	48.3	40.7	50.3	12	5
Total Cage Rinse <sup>c</sup>	0.978	1.00	1.26	1.27	0.923	1.09	15	5
Total Expired Volatiles	13.8	9.66	9.61	11.7	11.9	11.3	16	5
Total Expired <sup>14</sup> CO <sub>2</sub>	5.73	4.42	5.36	4.65	4.49	4.93	12	5
<b>Total % Recovery</b>	<b>126</b>	<b>109</b>	<b>115</b>	<b>103</b>	<b>95.4</b>	<b>110</b>	<b>11</b>	<b>5</b>
Group 2 (160 ppm) - Female	2549	2550	2551	2552	2553	Mean	%RSD	n
Total Tissues <sup>a</sup>	13.9	10.0	7.72	8.69	5.51	9.16	34	5
Tube Rinses <sup>b</sup>	5.33	12.5	0.737	0.145	7.14	5.16	98	5
Total Urine	31.5	19.9	23.6	20.1	13.2	21.6	31	5
Total Feces	48.2	36.5	31.1	30.2	22.0	33.6	29	5
Total Cage Rinse <sup>c</sup>	10.3	0.661	3.82	2.60	0.603	3.60	111	5
Total Expired Volatiles	5.06	2.08	2.65	2.48	1.01	2.66	56	5
Total Expired <sup>14</sup> CO <sub>2</sub>	5.25	3.69	3.20	3.47	2.43	3.61	29	5
<b>Total % Recovery</b>	<b>120</b>	<b>85.3</b>	<b>72.8</b>	<b>67.7</b>	<b>51.9</b>	<b>79.5</b>	<b>32</b>	<b>5</b>

a: Total does not include fat, plasma, or whole blood. Fat is accounted for in the carcass contribution.

b: 70% ETOH was used to rinse exposure tube to collect excreta.

c: Value is the sum of 70% ETOH and water cage rinse.

**Table 20** Concentration of Administered Radioactivity in Samples from Male Rats at 3.0 Hr Following the Start of a Single, Nose-Only, Vapor Inhalation Exposure to <sup>14</sup>C-D<sub>5</sub> at a Target D<sub>5</sub> Concentration of 7 ppm

Sample Type	Radioactivity (μg equiv <sup>14</sup> C-D <sub>5</sub> /g) by Animal Number						n
	1009	1010	1011	1012	Mean	%RSD	
Plasma	0.104	0.0747	0.0792	0.0681	0.0815	19	4
Whole Blood	0.126	0.0778	0.0897	0.0799	0.0933	24	4

**Table 21** Concentration of Administered Radioactivity in Samples from Male Rats at 0 Hr Following a Single, Nose-Only, Vapor Inhalation Exposure to <sup>14</sup>C-D<sub>5</sub> at a Target D<sub>5</sub> Concentration of 7 ppm

Sample Type	Radioactivity (μg equiv <sup>14</sup> C-D <sub>5</sub> /g) by Animal Number						n
	1013	1014	1015	1016	Mean	%RSD	
Adrenal Gland	0.929	1.26	1.31	1.11	1.15	15	4
Intestine, Large <sup>a</sup>	4.75	4.63	4.64	5.62	4.91	10	4
Intestine, Small <sup>a</sup>	4.70	3.98	3.41	5.16	4.31	18	4
Kidney	0.489	0.526	0.531	0.663	0.553	14	4
Liver	0.831	0.836	0.828	1.18	0.918	19	4
Lung	2.42	2.05	1.81	1.94	2.05	13	4
Nasal Cavity	1.02	0.768	0.909	0.908	0.900	11	4
Pancreas	0.406	0.365	0.481	0.546	0.449	18	4
Perirenal Fat	0.244	0.182	0.249	0.170	0.211	19	4
Plasma	0.140	0.144	0.152	0.195	0.158	16	4
Spleen	0.295	0.285	0.305	0.364	0.312	11	4
Stomach <sup>a</sup>	1.34	1.56	2.83	0.962	1.67	48	4
Testes	0.0888	0.0973	0.0944	0.126	0.102	17	4
Thymus	0.656	0.835	0.379	0.293	0.541	46	4
Thyroid	1.21	0.884	0.842	8.68	2.91	133	4
Whole Blood	0.164	0.169	0.180	0.221	0.183	14	4

a: Includes contents.

**Table 22** Concentration of Administered Radioactivity in Samples from Male Rats at 1 Hr Following a Single, Nose-Only, Vapor Inhalation Exposure to <sup>14</sup>C-D<sub>5</sub> at a Target D<sub>5</sub> Concentration of 7 ppm

Sample Type	Radioactivity (µg equiv <sup>14</sup> C-D <sub>5</sub> /g) by Animal Number						
	1017	1018	1019	1020	Mean	%RSD	n
Adrenal Gland	1.20	0.556	1.56	0.978	1.07	39	4
Intestine, Large <sup>a</sup>	5.65	1.77	6.19	2.95	4.14	51	4
Intestine, Small <sup>a</sup>	2.40	1.04	0.381	0.595	1.11	82	4
Kidney	0.408	0.190	0.600	0.413	0.403	42	4
Liver	0.629	0.263	0.895	0.628	0.604	43	4
Lung	1.10	0.534	1.17	1.14	0.986	31	4
Nasal Cavity	0.443	0.207	0.537	0.484	0.418	35	4
Pancreas	0.373	0.186	0.518	0.464	0.385	38	4
Perirenal Fat	0.219	0.0913	0.213	0.192	0.179	33	4
Plasma	0.113	0.0502	0.150	0.104	0.105	40	4
Spleen	0.206	0.0949	0.314	0.235	0.212	43	4
Stomach <sup>a</sup>	0.817	0.373	6.35	4.85	3.10	96	4
Testes	0.0882	0.0392	0.117	0.111	0.0889	40	4
Thymus	0.324	0.206	0.573	0.420	0.380	41	4
Thyroid	0.418	0.512	0.850	0.346	0.532	42	4
Whole Blood	0.158	0.0643	0.187	0.122	0.133	40	4

a: Includes contents.

**Table 23** Concentration of Administered Radioactivity in Samples from Male Rats at 3 Hr Following a Single, Nose-Only, Vapor Inhalation Exposure to <sup>14</sup>C-D<sub>5</sub> at a Target D<sub>5</sub> Concentration of 7 ppm

Sample Type	Radioactivity (µg equiv <sup>14</sup> C-D <sub>5</sub> /g) by Animal Number						
	1021	1022	1023	1024	Mean	%RSD	n
Adrenal Gland	1.06	0.731	0.949	0.976	0.928	15	4
Intestine, Large <sup>a</sup>	8.64	3.45	5.41	4.78	5.57	40	4
Intestine, Small <sup>a</sup>	1.03	0.548	1.04	0.667	0.822	31	4
Kidney	0.423	0.258	0.351	0.312	0.336	21	4
Liver	0.652	0.341	0.610	0.467	0.517	27	4
Lung	0.998	0.696	0.957	1.10	0.938	18	4
Nasal Cavity	0.314	0.224	0.338	0.307	0.295	17	4
Pancreas	0.445	0.294	0.398	0.325	0.366	19	4
Perirenal Fat	0.333	0.183	0.202	0.171	0.222	34	4
Plasma	0.105	0.0601	0.0873	0.0738	0.0815	24	4
Spleen	0.194	0.0989	0.166	0.137	0.149	27	4
Stomach <sup>a</sup>	0.224	0.0890	0.233	0.200	0.186	36	4
Testes	0.101	0.0593	0.0880	0.0775	0.0815	22	4
Thymus	0.467	0.286	0.352	0.259	0.341	27	4
Thyroid	0.558	0.777	0.466	-- <sup>b</sup>	0.600	27	3
Whole Blood	0.117	0.0671	0.104	0.0852	0.0935	24	4

a: Includes contents.  
 b: Tissue radioactivity (µg equiv <sup>14</sup>C-D<sub>5</sub>/g) could not be calculated because total sample weight at collection (tissue plus solubilizer and container) was less than tare weight (solubilizer plus container).

**Table 24** Concentration of Administered Radioactivity in Samples from Male Rats at 12 Hr Following a Single, Nose-Only, Vapor Inhalation Exposure to <sup>14</sup>C-D<sub>5</sub> at a Target D<sub>5</sub> Concentration of 7 ppm

Sample Type	Radioactivity (µg equiv <sup>14</sup> C-D <sub>5</sub> /g) by Animal Number						
	1025	1026	1027	1028	Mean	%RSD	n
Adrenal Gland	0.385	0.517	0.241	0.307	0.362	33	4
Intestine, Large <sup>a</sup>	1.13	3.15	0.605	1.69	1.64	67	4
Intestine, Small <sup>a</sup>	0.228	0.289	0.109	0.197	0.206	36	4
Kidney	0.162	0.189	0.0756	0.133	0.140	35	4
Liver	0.322	0.376	0.158	0.226	0.270	36	4
Lung	0.789	0.579	0.293	0.654	0.579	36	4
Nasal Cavity	0.188	0.202	0.123	0.188	0.175	20	4
Pancreas	0.223	0.275	0.125	0.217	0.210	30	4
Perirenal Fat	0.216	0.250	0.117	0.207	0.198	29	4
Plasma	0.0445	0.0456	0.0185	0.0311	0.0349	37	4
Spleen	0.0782	0.118	0.0402	0.0677	0.0761	43	4
Stomach <sup>a</sup>	0.0836	0.0787	0.0277	0.0636	0.0634	40	4
Testes	0.0438	0.0509	0.0219	0.0376	0.0385	32	4
Thymus	0.363	0.398	0.135	0.142	0.259	54	4
Thyroid	0.279	0.270	0.0702	0.302	0.230	47	4
Whole Blood	0.0392	0.0484	0.0205	0.0355	0.0359	32	4

a: Includes contents.

**Table 25** Concentration of Administered Radioactivity in Samples from Male Rats at 24 Hr Following a Single, Nose-Only, Vapor Inhalation Exposure to <sup>14</sup>C-D<sub>5</sub> at a Target D<sub>5</sub> Concentration of 7 ppm

Sample Type	Radioactivity (µg equiv <sup>14</sup> C-D <sub>5</sub> /g) by Animal Number						
	1029	1030	1031	1032	Mean	%RSD	n
Adrenal Gland	0.266	0.340	0.313	0.311	0.307	10	4
Intestine, Large <sup>a</sup>	0.457	0.565	0.504	0.754	0.570	23	4
Intestine, Small <sup>a</sup>	0.147	0.154	0.110	0.141	0.138	14	4
Kidney	0.0947	0.120	0.0799	0.0958	0.0977	17	4
Liver	0.243	0.281	0.166	0.225	0.229	21	4
Lung	0.611	0.531	0.505	0.621	0.567	10	4
Nasal Cavity	0.144	0.156	0.158	0.154	0.153	4	4
Pancreas	0.152	0.178	0.127	0.179	0.159	16	4
Perirenal Fat	0.203	0.208	0.215	0.168	0.198	10	4
Plasma	0.0235	0.0260	0.0179	0.0257	0.0233	16	4
Spleen	0.0617	0.0698	0.0432	0.0576	0.0581	19	4
Stomach <sup>a</sup>	0.0669	0.0639	0.0330	0.0528	0.0541	28	4
Testes	0.0316	0.0383	0.0267	0.0316	0.0321	15	4
Thymus	0.385	0.290	0.252	0.202	0.283	27	4
Thyroid	0.220	0.298	0.102	0.228	0.212	38	4
Whole Blood	0.0221	0.0234	0.0169	0.0220	0.0211	14	4

a: Includes contents.

**Table 26** Concentration of Administered Radioactivity in Samples from Male Rats at 48 Hr Following a Single, Nose-Only, Vapor Inhalation Exposure to <sup>14</sup>C-D<sub>5</sub> at a Target D<sub>5</sub> Concentration of 7 ppm

Sample Type	Radioactivity (µg equiv <sup>14</sup> C-D <sub>5</sub> /g) by Animal Number						
	1033	1034	1035	1036	Mean	%RSD	n
Adrenal Gland	0.267	0.208	0.262	0.425	0.291	32	4
Intestine, Large <sup>a</sup>	0.0879	0.0909	0.104	0.133	0.104	20	4
Intestine, Small <sup>a</sup>	0.0794	0.0801	0.0814	0.127	0.0920	25	4
Kidney	0.0747	0.0586	0.0714	0.0837	0.0721	14	4
Liver	0.167	0.145	0.151	0.387	0.212	55	4
Lung	0.525	0.445	0.449	0.414	0.458	10	4
Nasal Cavity	0.121	0.122	0.118	0.122	0.121	2	4
Pancreas	0.136	0.0921	0.104	0.209	0.135	39	4
Perirenal Fat	0.230	0.214	0.215	0.257	0.229	9	4
Plasma	0.0133	0.0127	0.0126	0.0193	0.0145	22	4
Spleen	0.0464	0.0477	0.0508	0.0740	0.0547	24	4
Stomach <sup>a</sup>	0.0441	0.0400	0.0415	0.0449	0.0426	5	4
Testes	0.0281	0.0239	0.0272	0.0361	0.0288	18	4
Thymus	0.335	0.298	0.315	0.142	0.272	32	4
Thyroid	0.135	0.122	0.244	0.156	0.164	34	4
Whole Blood	0.0158	0.0155	0.0142	0.0232	0.0172	24	4

a: Includes contents.

**Table 27** Concentration of Administered Radioactivity in Samples from Male Rats at 72 Hr Following a Single, Nose-Only, Vapor Inhalation Exposure to <sup>14</sup>C-D<sub>5</sub> at a Target D<sub>5</sub> Concentration of 7 ppm

Sample Type	Radioactivity (µg equiv <sup>14</sup> C-D <sub>5</sub> /g) by Animal Number						
	1037	1038	1039	1040	Mean	%RSD	n
Adrenal Gland	0.220	0.132	0.151	0.316	0.205	41	4
Intestine, Large <sup>a</sup>	0.0551	0.0426	0.0547	0.0549	0.0518	12	4
Intestine, Small <sup>a</sup>	0.0539	0.0455	0.0659	0.0788	0.0610	24	4
Kidney	0.0533	0.0476	0.0591	0.0973	0.0643	35	4
Liver	0.132	0.117	0.167	0.182	0.149	20	4
Lung	0.510	0.462	0.299	0.438	0.427	21	4
Nasal Cavity	0.114	0.115	0.0926	0.106	0.107	10	4
Pancreas	0.0897	0.128	0.0813	0.0955	0.0986	21	4
Perirenal Fat	0.203	0.161	0.199	0.240	0.201	16	4
Plasma	0.00896	0.00951	0.0111	0.0125	0.0105	15	4
Spleen	0.0396	0.0348	0.0483	0.0665	0.0473	30	4
Stomach <sup>a</sup>	0.0225	0.0267	0.0338	0.0672	0.0375	54	4
Testes	0.0229	0.0226	0.0243	0.0273	0.0243	9	4
Thymus	0.291	0.0870	0.205	0.228	0.203	42	4
Thyroid	0.128	0.127	0.136	0.220	0.153	30	4
Whole Blood	0.0115	0.00799	0.0156	0.0134	0.0121	27	4

a: Includes contents.

**Table 28** Concentration of Administered Radioactivity in Samples from Male Rats at 96 Hr Following a Single, Nose-Only, Vapor Inhalation Exposure to <sup>14</sup>C-D<sub>5</sub> at a Target D<sub>5</sub> Concentration of 7 ppm

Sample Type	Radioactivity (µg equiv <sup>14</sup> C-D <sub>5</sub> /g) by Animal Number						
	1041	1042	1043	1044	Mean	%RSD	n
Adrenal Gland	0.236	0.212	0.294	0.157	0.225	25	4
Intestine, Large <sup>a</sup>	0.0798	0.0321	0.0404	0.0398	0.0480	45	4
Intestine, Small <sup>a</sup>	0.0694	0.0505	0.0538	0.0440	0.0544	20	4
Kidney	0.0549	0.0515	0.0559	0.0463	0.0522	8	4
Liver	0.121	0.133	0.106	0.106	0.117	11	4
Lung	0.461	0.423	0.435	0.424	0.436	4	4
Nasal Cavity	0.101	0.0916	0.0951	0.0966	0.0960	4	4
Pancreas	0.163	0.0935	0.0614	0.0649	0.0956	49	4
Perirenal Fat	0.208	0.225	0.181	0.142	0.189	19	4
Plasma	0.00732	0.00800	0.00676	0.00703	0.00728	7	4
Spleen	0.0444	0.0423	0.0380	0.0362	0.0402	9	4
Stomach <sup>a</sup>	0.0479	0.0418	0.0567	0.0253	0.0429	31	4
Testes	0.0241	0.0231	0.0234	0.0200	0.0227	8	4
Thymus	0.151	0.180	0.148	0.266	0.186	30	4
Thyroid	0.150	0.135	0.106	0.266	0.164	43	4
Whole Blood	0.0108	0.0115	0.00941	0.00925	0.0102	11	4

a: Includes contents.

**Table 29** Concentration of Administered Radioactivity in Samples from Male Rats at 120 Hr Following a Single, Nose-Only, Vapor Inhalation Exposure to <sup>14</sup>C-D<sub>5</sub> at a Target D<sub>5</sub> Concentration of 7 ppm

Sample Type	Radioactivity (µg equiv <sup>14</sup> C-D <sub>5</sub> /g) by Animal Number						
	1045	1046	1047	1048	Mean	%RSD	n
Adrenal Gland	0.205	0.191	0.207	0.113	0.179	25	4
Intestine, Large <sup>a</sup>	0.0346	0.0325	0.0374	0.0282	0.0332	12	4
Intestine, Small <sup>a</sup>	0.0509	0.0415	0.0565	0.0424	0.0478	15	4
Kidney	0.0427	0.0497	0.0490	0.0372	0.0446	13	4
Liver	0.104	0.0862	0.133	0.0514	0.0936	36	4
Lung	0.421	0.358	0.425	0.403	0.402	8	4
Nasal Cavity	0.0862	0.0942	-- <sup>b</sup>	0.0823	0.0876	7	3
Pancreas	0.125	0.0884	0.109	0.0771	0.0999	21	4
Perirenal Fat	0.208	0.197	0.234	0.118	0.189	26	4
Plasma	0.00709	0.00569	0.00666	0.00376	0.00580	25	4
Spleen	0.0366	0.0338	0.0396	0.0253	0.0338	18	4
Stomach <sup>a</sup>	0.0188	0.0180	0.0192	0.0336	0.0224	33	4
Testes	0.0219	0.0202	-- <sup>b</sup>	0.0164	0.0195	14	3
Thymus	0.153	0.164	0.190	0.177	0.171	9	4
Thyroid	0.0901	0.102	0.210	0.183	0.146	41	4
Whole Blood	0.00979	0.00886	0.0106	0.00681	0.00901	18	4

a: Includes contents.  
 b: Sample collection error.

**Table 30** Concentration of Administered Radioactivity in Samples from Male Rats at 168 Hr Following a Single, Nose-Only, Vapor Inhalation Exposure to <sup>14</sup>C-D<sub>5</sub> at a Target D<sub>5</sub> Concentration of 7 ppm

Sample Type	Radioactivity (µg equiv <sup>14</sup> C-D <sub>5</sub> /g) by Animal Number							
	1049	1050	1051	1052	1053	Mean	%RSD	n
Adrenal Gland	0.373	0.137	0.198	0.241	0.178	0.225	40	5
Carcass, Remaining	0.0724	0.0576	0.0553	0.0480	0.0570	0.0581	15	5
Intestine, Large <sup>a</sup>	0.0487	0.0333	0.0253	0.0429	0.0387	0.0378	24	5
Intestine, Small <sup>a</sup>	0.0434	0.0422	0.0271	0.0328	0.0471	0.0385	21	5
Kidney	0.0519	0.0309	0.0369	0.0522	0.0441	0.0432	22	5
Liver	0.135	0.0636	0.0643	0.0574	0.0867	0.0815	39	5
Lung	0.370	0.292	0.298	0.185	0.403	0.310	27	5
Nasal Cavity	0.0753	0.0777	0.0577	0.0589	0.0744	0.0688	14	5
Pancreas	0.142	0.0507	0.0462	0.0497	0.108	0.0795	55	5
Perirenal Fat	0.452	0.181	-- <sup>b</sup>	0.292	0.447	0.343	38	4
Plasma	0.00720	0.00373	0.00353	0.00364	0.00567	0.00476	34	5
Spleen	0.0351	0.0236	0.0238	0.0350	0.0303	0.0296	19	5
Stomach <sup>a</sup>	0.0296	0.0264	0.0364	0.0175	0.0276	0.0275	25	5
Testes	0.0220	0.0143	0.0162	0.0148	0.0198	0.0174	19	5
Thymus	0.283	0.217	0.109	0.102	0.140	0.170	46	5
Thyroid	0.114	0.121	0.122	0.0755	0.0956	0.106	19	5
Whole Blood	0.0108	0.00622	0.00676	0.00584	0.00866	0.00765	27	5

a: Includes contents.  
 b: Sample not collected by accident – see protocol deviation.

**Table 31** Concentration of Administered Radioactivity in Samples from Female Rats at 3.0 Hr Following the Start of a Single, Nose-Only, Vapor Inhalation Exposure to <sup>14</sup>C-D<sub>5</sub> at a Target D<sub>5</sub> Concentration of 7 ppm

Sample Type	Radioactivity (µg equiv <sup>14</sup> C-D <sub>5</sub> /g) by Animal Number						
	1509	1510	1511	1512	Mean	%RSD	n
Plasma	0.0577	0.0336	0.0000748	0.0488	0.0351	72	4
Whole Blood	0.0719	0.0437	0.000	0.0618	0.0444	72	4

**Table 32** Concentration of Administered Radioactivity in Samples from Female Rats at 0 Hr Following a Single, Nose-Only, Vapor Inhalation Exposure to <sup>14</sup>C-D<sub>5</sub> at a Target D<sub>5</sub> Concentration of 7 ppm

Sample Type	Radioactivity (µg equiv <sup>14</sup> C-D <sub>5</sub> /g) by Animal Number						
	1513	1514	1515	1516	Mean	%RSD	n
Adrenal Gland	0.987	1.25	0.534	1.27	1.01	34	4
Intestine, Large <sup>a</sup>	1.89	1.92	1.01	2.38	1.80	32	4
Intestine, Small <sup>a</sup>	1.96	1.95	0.688	2.61	1.80	45	4
Kidney	0.294	0.328	0.132	0.378	0.283	38	4
Liver	0.651	0.677	0.284	0.937	0.637	42	4
Lung	1.18	1.35	0.579	1.10	1.05	32	4
Nasal Cavity	0.526	0.670	0.314	0.530	0.510	29	4
Ovaries	0.281	0.335	0.125	0.454	0.299	46	4
Pancreas	0.274	0.349	0.133	0.373	0.282	38	4
Perirenal Fat	0.130	0.211	0.0696	0.193	0.151	43	4
Plasma	0.0746	0.0800	0.0364	0.0943	0.0713	35	4
Spleen	0.184	0.210	0.0866	0.236	0.179	36	4
Stomach <sup>a</sup>	1.64	1.21	0.216	2.46	1.38	68	4
Thymus	0.158	0.384	0.100	0.389	0.258	58	4
Thyroid	0.529	0.736	0.194	0.921	0.595	52	4
Uterus	0.0722	0.125	0.0680	0.130	0.0990	34	4
Vagina	0.102	0.168	0.0553	0.121	0.112	42	4
Whole Blood	0.0895	0.100	0.0421	0.101	0.0833	34	4

a: Includes contents.

**Table 33** Concentration of Administered Radioactivity in Samples from Female Rats at 1 Hr Following a Single, Nose-Only, Vapor Inhalation Exposure to <sup>14</sup>C-D<sub>5</sub> at a Target D<sub>5</sub> Concentration of 7 ppm

Sample Type	Radioactivity (µg equiv <sup>14</sup> C-D <sub>5</sub> /g) by Animal Number						
	1517	1518	1519	1520	Mean	%RSD	n
Adrenal Gland	0.423	0.733	1.31	1.43	0.974	49	4
Intestine, Large <sup>a</sup>	0.905	1.89	3.45	2.79	2.26	49	4
Intestine, Small <sup>a</sup>	0.184	0.643	0.997	0.866	0.673	53	4
Kidney	0.0918	0.181	0.309	0.269	0.213	46	4
Liver	0.167	0.315	0.611	0.498	0.397	49	4
Lung	0.250	0.343	0.737	0.581	0.478	46	4
Nasal Cavity	0.0937	0.164	0.313	0.249	0.205	47	4
Ovaries	0.104	0.163	0.254	0.232	0.188	36	4
Pancreas	0.0981	0.172	0.326	0.259	0.214	47	4
Perirenal Fat	0.0689	0.0940	0.170	0.144	0.119	39	4
Plasma	0.0172	0.0410	0.0686	0.0551	0.0455	48	4
Spleen	0.0449	0.0760	0.161	0.125	0.102	51	4
Stomach <sup>a</sup>	0.216	0.560	0.339	0.659	0.443	46	4
Thymus	0.0851	0.162	0.198	0.213	0.165	35	4
Thyroid	0.179	0.247	0.295	0.280	0.250	21	4
Uterus	0.0354	0.0724	0.100	0.0765	0.0710	37	4
Vagina	0.0351	0.0755	0.0861	0.112	0.0772	41	4
Whole Blood	0.0199	0.0451	0.0771	0.0633	0.0513	48	4

a: Includes contents.

**Table 34** Concentration of Administered Radioactivity in Samples from Female Rats at 3 Hr Following a Single, Nose-Only, Vapor Inhalation Exposure to <sup>14</sup>C-D<sub>5</sub> at a Target D<sub>5</sub> Concentration of 7 ppm

Sample Type	Radioactivity (µg equiv <sup>14</sup> C-D <sub>5</sub> /g) by Animal Number						
	1521	1522	1523	1524	Mean	%RSD	n
Adrenal Gland	0.183	0.410	0.793	0.571	0.489	53	4
Intestine, Large <sup>a</sup>	0.481	1.23	2.87	1.83	1.60	63	4
Intestine, Small <sup>a</sup>	0.0980	0.161	0.300	0.225	0.196	44	4
Kidney	0.0448	0.116	0.199	0.134	0.123	51	4
Liver	0.0748	0.179	0.332	0.227	0.203	53	4
Lung	0.0971	0.227	0.416	0.246	0.246	53	4
Nasal Cavity	0.0446	0.101	0.176	0.116	0.109	49	4
Ovaries	0.0400	0.156	0.236	0.150	0.145	55	4
Pancreas	0.0471	0.121	0.209	0.121	0.125	53	4
Perirenal Fat	0.0306	0.0585	0.158	0.0643	0.0779	71	4
Plasma	0.00789	0.0179	0.0320	0.0220	0.0200	50	4
Spleen	0.0209	0.0494	0.0722	0.0567	0.0498	43	4
Stomach <sup>a</sup>	0.0380	0.0489	0.0806	0.0629	0.0576	32	4
Thymus	0.0595	0.0949	0.267	0.109	0.133	69	4
Thyroid	0.101	0.112	0.355	-- <sup>b</sup>	0.189	76	3
Uterus	0.0164	0.0445	0.0726	0.0415	0.0437	53	4
Vagina	0.0173	0.0580	0.0862	0.0503	0.0530	54	4
Whole Blood	0.00965	0.0210	0.0415	0.0263	0.0246	54	4

a: Includes contents.  
 b: Tissue radioactivity (µg equiv <sup>14</sup>C-D<sub>5</sub>/g) could not be calculated because total sample weight at collection (tissue plus solubilizer and container) was less than tare weight (solubilizer plus container)

**Table 35** Concentration of Administered Radioactivity in Samples from Female Rats at 12 Hr Following a Single, Nose-Only, Vapor Inhalation Exposure to <sup>14</sup>C-D<sub>5</sub> at a Target D<sub>5</sub> Concentration of 7 ppm

Sample Type	Radioactivity (μg equiv <sup>14</sup> C-D <sub>5</sub> /g) by Animal Number						
	1525	1526	1527	1528	Mean	%RSD	n
Adrenal Gland	0.467	0.185	1.17	0.667	0.621	67	4
Intestine, Large <sup>a</sup>	0.480	0.343	1.35	2.16	1.08	78	4
Intestine, Small <sup>a</sup>	0.107	0.0506	0.590	0.257	0.251	96	4
Kidney	0.116	0.0677	0.257	0.161	0.150	54	4
Liver	0.185	0.0707	0.616	0.438	0.328	75	4
Lung	0.324	0.167	0.628	0.325	0.361	53	4
Nasal Cavity	0.124	0.0740	0.213	0.133	0.136	42	4
Ovaries	0.203	0.0984	0.647	0.266	0.304	79	4
Pancreas	0.147	0.0692	0.325	0.239	0.195	57	4
Perirenal Fat	0.142	0.0563	0.393	0.199	0.198	72	4
Plasma	0.0148	0.00800	0.0436	0.0272	0.0234	67	4
Spleen	0.0459	0.0213	0.122	0.0693	0.0647	67	4
Stomach <sup>a</sup>	0.0277	0.0200	2.50	0.122	0.668	183	4
Thymus	0.174	0.0496	0.439	0.117	0.195	88	4
Thyroid	0.204	0.0590	0.314	-- <sup>b</sup>	0.192	66	3
Uterus	0.0686	0.0274	0.123	0.0638	0.0708	56	4
Vagina	0.0520	0.0231	0.180	0.0319	0.0717	102	4
Whole Blood	0.0168	0.00695	0.0449	0.0300	0.0247	67	4

a: Includes contents.  
 b: Tissue radioactivity (μg equiv <sup>14</sup>C-D<sub>5</sub>/g) could not be calculated because total sample weight at collection (tissue plus solubilizer and container) was less than tare weight (solubilizer plus container).

**Table 36** Concentration of Administered Radioactivity in Samples from Female Rats at 24 Hr Following a Single, Nose-Only, Vapor Inhalation Exposure to <sup>14</sup>C-D<sub>5</sub> at a Target D<sub>5</sub> Concentration of 7 ppm

Sample Type	Radioactivity (µg equiv <sup>14</sup> C-D <sub>5</sub> /g) by Animal Number						
	1529	1530	1531	1532	Mean	%RSD	n
Adrenal Gland	0.563	0.495	0.237	0.635	0.482	36	4
Intestine, Large <sup>a</sup>	1.28	0.477	0.233	0.349	0.584	81	4
Intestine, Small <sup>a</sup>	0.213	0.163	0.0706	0.176	0.156	39	4
Kidney	0.151	0.124	0.0505	0.148	0.119	40	4
Liver	0.424	0.361	0.122	0.408	0.329	43	4
Lung	0.488	0.331	0.170	0.450	0.360	40	4
Nasal Cavity	0.158	0.130	0.0623	0.150	0.125	35	4
Ovaries	0.308	0.306	0.0959	0.284	0.248	41	4
Pancreas	0.211	0.204	0.0736	0.222	0.178	39	4
Perirenal Fat	0.377	0.221	0.115	0.228	0.235	46	4
Plasma	0.0199	0.0176	0.00892	0.0236	0.0175	36	4
Spleen	0.0730	0.0593	0.0275	0.0752	0.0587	37	4
Stomach <sup>a</sup>	0.102	0.0668	0.0287	0.0723	0.0676	45	4
Thymus	0.369	0.116	0.113	0.525	0.281	72	4
Thyroid	0.186	0.280	0.250	0.369	0.271	28	4
Uterus	0.0815	0.0962	0.0298	0.110	0.0794	44	4
Vagina	0.0602	0.0658	0.0453	0.111	0.0706	40	4
Whole Blood	0.0249	0.0210	0.00876	0.0233	0.0195	38	4

a: Includes contents.

**Table 37** Concentration of Administered Radioactivity in Samples from Female Rats at 48 Hr Following a Single, Nose-Only, Vapor Inhalation Exposure to <sup>14</sup>C-D<sub>5</sub> at a Target D<sub>5</sub> Concentration of 7 ppm

Sample Type	Radioactivity (µg equiv <sup>14</sup> C-D <sub>5</sub> /g) by Animal Number						
	1533	1534	1535	1536	Mean	%RSD	n
Adrenal Gland	0.267	0.111	0.413	0.125	0.229	62	4
Intestine, Large <sup>a</sup>	0.0851	0.0410	0.126	0.0393	0.0727	57	4
Intestine, Small <sup>a</sup>	0.0719	0.0317	0.107	0.0324	0.0607	59	4
Kidney	0.0643	0.0437	0.103	0.0307	0.0603	52	4
Liver	0.177	0.0616	0.361	0.0815	0.170	80	4
Lung	0.263	0.152	0.528	0.170	0.278	62	4
Nasal Cavity	0.0923	0.0614	0.136	0.0517	0.0852	44	4
Ovaries	0.139	0.0602	0.260	0.0679	0.132	70	4
Pancreas	0.102	0.0478	0.123	0.0593	0.0831	43	4
Perirenal Fat	0.168	0.0536	0.396	0.0485	0.167	98	4
Plasma	0.00661	0.00321	0.0125	0.00314	0.00637	69	4
Spleen	0.0397	0.0226	0.0600	0.0186	0.0352	54	4
Stomach <sup>a</sup>	0.0344	0.0173	0.0436	0.0217	0.0292	41	4
Thymus	0.182	0.0517	0.328	0.0637	0.157	82	4
Thyroid	0.740	0.0797	0.369	0.116	0.326	93	4
Uterus	0.0481	0.0261	0.0966	0.0223	0.0483	71	4
Vagina	0.0871	0.0187	0.0509	0.0123	0.0422	81	4
Whole Blood	0.00839	0.00290	0.0153	0.00391	0.00763	74	4

a: Includes contents.

**Table 38** Concentration of Administered Radioactivity in Samples from Female Rats at 72 Hr Following a Single, Nose-Only, Vapor Inhalation Exposure to <sup>14</sup>C-D<sub>5</sub> at a Target D<sub>5</sub> Concentration of 7 ppm

Sample Type	Radioactivity (µg equiv <sup>14</sup> C-D <sub>5</sub> /g) by Animal Number						
	1537	1538	1539	1540	Mean	%RSD	n
Adrenal Gland	0.146	0.343	0.177	0.112	0.195	53	4
Intestine, Large <sup>a</sup>	0.0349	0.0681	0.0503	0.0293	0.0457	38	4
Intestine, Small <sup>a</sup>	0.0277	0.0903	0.0576	0.0319	0.0519	56	4
Kidney	0.0340	0.0591	0.0487	0.0251	0.0417	36	4
Liver	0.0702	0.201	0.134	0.0696	0.119	53	4
Lung	0.240	0.265	0.242	0.137	0.221	26	4
Nasal Cavity	0.0616	0.0750	0.0766	0.0503	0.0659	19	4
Ovaries	0.0772	0.125	0.119	0.0650	0.0965	31	4
Pancreas	0.0454	0.129	0.100	0.0295	0.0759	61	4
Perirenal Fat	0.118	0.204	0.153	0.0660	0.135	43	4
Plasma	0.00264	0.00721	0.00460	0.00210	0.00414	56	4
Spleen	0.0195	0.0383	0.0318	0.0219	0.0279	31	4
Stomach <sup>a</sup>	0.0192	0.0488	0.0432	0.0324	0.0359	36	4
Thymus	-- <sup>b</sup>	0.114	0.174	0.0991	0.129	31	3
Thyroid	0.125	0.258	0.521	0.0962	0.250	78	4
Uterus	0.0311	0.0580	0.0382	0.0272	0.0386	35	4
Vagina	0.0141	0.0434	0.0571	0.0269	0.0354	53	4
Whole Blood	0.00369	0.00846	0.00491	0.00247	0.00488	53	4

a: Includes contents.  
 b: Tissue radioactivity (µg equiv <sup>14</sup>C-D<sub>5</sub>/g) could not be calculated because total sample weight at collection (tissue plus solubilizer and container) was less than tare weight (solubilizer plus container).

**Table 39** Concentration of Administered Radioactivity in Samples from Female Rats at 96 Hr Following a Single, Nose-Only, Vapor Inhalation Exposure to <sup>14</sup>C-D<sub>5</sub> at a Target D<sub>5</sub> Concentration of 7 ppm

Sample Type	Radioactivity (µg equiv <sup>14</sup> C-D <sub>5</sub> /g) by Animal Number						
	1541	1542	1543	1544	Mean	%RSD	n
Adrenal Gland	0.147	0.163	0.140	0.313	0.191	43	4
Intestine, Large <sup>a</sup>	0.0289	0.0392	0.0213	0.0665	0.0390	51	4
Intestine, Small <sup>a</sup>	0.0324	0.0385	0.0255	0.0810	0.0443	56	4
Kidney	0.0347	0.0482	0.0626	0.0754	0.0552	32	4
Liver	0.0731	0.0960	0.0528	0.272	0.123	81	4
Lung	0.194	0.264	0.181	0.326	0.241	28	4
Nasal Cavity	0.0703	0.0874	0.0606	0.0908	0.0773	19	4
Ovaries	0.0784	0.0981	0.0931	0.164	0.108	35	4
Pancreas	0.0613	0.0592	0.0455	0.143	0.0773	57	4
Perirenal Fat	0.147	0.189	0.100	0.325	0.190	51	4
Plasma	0.00268	0.00349	0.00204	0.00705	0.00381	59	4
Spleen	0.0210	0.0267	0.0276	0.0481	0.0309	39	4
Stomach <sup>a</sup>	0.0181	0.0214	0.0173	0.0575	0.0286	68	4
Thymus	0.107	0.100	0.144	0.233	0.146	42	4
Thyroid	0.239	0.0598	0.146	0.564	0.252	87	4
Uterus	0.0162	0.0289	0.0233	0.0709	0.0349	71	4
Vagina	0.0164	0.0182	0.0479	0.0807	0.0408	74	4
Whole Blood	0.00450	0.00497	0.00246	0.0111	0.00575	64	4

a: Includes contents.

**Table 40** Concentration of Administered Radioactivity in Samples from Female Rats at 120 Hr Following a Single, Nose-Only, Vapor Inhalation Exposure to <sup>14</sup>C-D<sub>5</sub> at a Target D<sub>5</sub> Concentration of 7 ppm

Sample Type	Radioactivity (µg equiv <sup>14</sup> C-D <sub>5</sub> /g) by Animal Number						
	1545	1546	1547	1548	Mean	%RSD	n
Adrenal Gland	0.372	0.219	0.0928	0.179	0.216	54	4
Intestine, Large <sup>a</sup>	0.0586	0.0360	0.0200	0.0305	0.0363	45	4
Intestine, Small <sup>a</sup>	0.0813	0.0343	0.0229	0.0384	0.0442	58	4
Kidney	0.0742	0.0459	0.0239	0.0463	0.0476	43	4
Liver	0.215	0.109	0.0580	0.0737	0.114	62	4
Lung	0.298	0.221	0.187	0.278	0.246	21	4
Nasal Cavity	0.0955	0.0744	0.0558	0.0578	0.0709	26	4
Ovaries	0.824	0.100	0.0593	0.0885	0.268	138	4
Pancreas	0.147	0.0521	0.0317	0.0387	0.0675	80	4
Perirenal Fat	0.302	0.228	0.0917	0.161	0.196	46	4
Plasma	0.00633	0.00358	0.00171	0.00241	0.00351	58	4
Spleen	0.0457	0.0284	0.0189	0.0312	0.0310	36	4
Stomach <sup>a</sup>	0.0335	0.0242	0.0119	0.0371	0.0267	42	4
Thymus	0.292	0.167	0.0674	0.111	0.159	61	4
Thyroid	0.459	0.118	0.296	0.290	0.291	48	4
Uterus	0.0803	0.0187	0.00899	0.0176	0.0314	105	4
Vagina	0.0375	0.0221	0.0114	0.0138	0.0212	56	4
Whole Blood	0.00910	0.00552	0.00220	0.00465	0.00537	53	4

a: Includes contents.

**Table 41** Concentration of Administered Radioactivity in Samples from Female Rats at 168 Hr Following a Single, Nose-Only, Vapor Inhalation Exposure to <sup>14</sup>C-D<sub>5</sub> at a Target D<sub>5</sub> Concentration of 7 ppm

Sample Type	Radioactivity (µg equiv <sup>14</sup> C-D <sub>5</sub> /g) by Animal Number						%RSD	n
	1549	1550	1551	1552	1553	Mean		
Adrenal Gland	0.259	0.0765	0.144	0.0824	0.0863	0.130	59	5
Carcass, Remaining	0.0790	0.0320	0.0455	0.0351	0.0266	0.0436	48	5
Intestine, Large <sup>a</sup>	0.0288	0.0141	0.0205	0.0122	0.0179	0.0187	35	5
Intestine, Small <sup>a</sup>	0.0400	0.0219	0.0253	0.0190	0.0158	0.0244	39	5
Kidney	0.0486	0.0178	0.0336	0.0184	0.0156	0.0268	53	5
Liver	0.156	0.0465	0.0520	0.0382	0.0425	0.0671	75	5
Lung	0.224	0.0811	0.138	0.128	0.108	0.136	40	5
Nasal Cavity	0.0768	0.0328	0.0476	0.0422	0.0399	0.0479	36	5
Ovaries	0.110	0.0572	0.136	0.0592	0.0541	0.0834	45	5
Pancreas	0.0860	0.0326	0.0297	0.0418	0.0214	0.0423	60	5
Perirenal Fat	0.362	0.0928	0.181	0.0976	0.138	0.174	64	5
Plasma	0.00324	0.000974	0.00126	0.00103	0.000958	0.00149	66	5
Spleen	0.0301	0.0110	0.0172	0.0110	0.0106	0.0160	52	5
Stomach <sup>a</sup>	0.0336	0.0139	0.0206	0.0168	0.0193	0.0209	36	5
Thymus	0.161	0.0977	0.0783	0.0456	0.0440	0.0852	56	5
Thyroid	0.225	0.138	0.0976	0.495	0.0707	0.205	84	5
Uterus	0.0406	0.0131	0.0867	0.117	0.0136	0.0542	85	5
Vagina	0.0172	0.0196	0.143	0.0151	0.0327	0.0455	121	5
Whole Blood	0.00687	0.00167	0.00521	0.00167	0.00811	0.00471	63	5

a: Includes contents.

**Table 42** Concentration of Administered Radioactivity in Samples from Male Rats at 3.0 Hr Following the Start of a Single, Nose-Only, Vapor Inhalation Exposure to <sup>14</sup>C-D<sub>5</sub> at a Target D<sub>5</sub> Concentration of 160 ppm

Sample Type	Radioactivity (µg equiv <sup>14</sup> C-D <sub>5</sub> /g) by Animal Number						
	2009	2010	2011	2012	Mean	%RSD	n
Plasma	1.86	1.90	1.40	1.60	1.69	14	4
Whole Blood	2.60	2.67	2.17	2.20	2.41	11	4

**Table 43** Concentration of Administered Radioactivity in Samples from Male Rats at 0 Hr Following a Single, Nose-Only, Vapor Inhalation Exposure to <sup>14</sup>C-D<sub>5</sub> at a Target D<sub>5</sub> Concentration of 160 ppm

Sample Type	Radioactivity (µg equiv <sup>14</sup> C-D <sub>5</sub> /g) by Animal Number						
	2013	2014	2015	2016	Mean	%RSD	n
Adrenal Gland	53.4	60.1	63.7	62.5	59.9	8	4
Intestine, Large <sup>a</sup>	73.8	137	144	174	132	32	4
Intestine, Small <sup>a</sup>	154	158	150	241	176	25	4
Kidney	13.6	13.8	15.3	15.1	14.5	6	4
Liver	32.9	30.1	31.5	32.7	31.8	4	4
Lung	63.9	59.6	52.1	69.3	61.2	12	4
Nasal Cavity	23.5	22.2	23.2	27.1	24.0	9	4
Pancreas	9.10	9.96	10.7	11.2	10.2	9	4
Perirenal Fat	4.82	5.30	6.66	6.13	5.73	14	4
Plasma	3.22	3.65	3.29	3.15	3.33	7	4
Spleen	10.6	10.0	10.9	11.6	10.8	6	4
Stomach <sup>a</sup>	50.5	87.6	87.2	25.0	62.6	49	4
Testes	1.43	1.63	1.75	1.86	1.67	11	4
Thymus	13.1	6.45	18.3	8.17	11.5	46	4
Thyroid	9.15	20.9	18.8	24.1	18.2	35	4
Whole Blood	4.31	4.66	4.45	4.60	4.50	3	4

a: Includes contents.

**Table 44** Concentration of Administered Radioactivity in Samples from Male Rats at 1 Hr Following a Single, Nose-Only, Vapor Inhalation Exposure to <sup>14</sup>C-D<sub>5</sub> at a Target D<sub>5</sub> Concentration of 160 ppm

Sample Type	Radioactivity (µg equiv <sup>14</sup> C-D <sub>5</sub> /g) by Animal Number						
	2017	2018	2019	2020	Mean	%RSD	n
Adrenal Gland	48.1	41.1	60.5	60.1	52.4	18	4
Intestine, Large <sup>a</sup>	105	142	203	81.7	133	40	4
Intestine, Small <sup>a</sup>	75.4	123	92.4	94.2	96.3	21	4
Kidney	13.2	12.2	13.7	12.3	12.8	6	4
Liver	22.9	22.6	23.6	20.6	22.4	6	4
Lung	37.3	34.9	40.6	38.6	37.8	6	4
Nasal Cavity	13.2	13.5	13.8	13.6	13.5	2	4
Pancreas	10.0	10.8	10.4	9.87	10.3	4	4
Perirenal Fat	7.73	6.74	6.84	6.08	6.85	10	4
Plasma	2.33	1.94	1.86	1.81	1.99	12	4
Spleen	7.15	8.79	7.97	7.01	7.73	11	4
Stomach <sup>a</sup>	18.9	47.3	35.9	9.88	28.0	60	4
Testes	1.69	1.69	1.63	1.50	1.63	6	4
Thymus	8.51	7.50	10.6	6.10	8.18	23	4
Thyroid	58.4	14.1	14.3	12.0	24.7	91	4
Whole Blood	3.01	2.87	2.79	2.62	2.82	6	4

a: Includes contents.

**Table 45** Concentration of Administered Radioactivity in Samples from Male Rats at 3 Hr Following a Single, Nose-Only, Vapor Inhalation Exposure to <sup>14</sup>C-D<sub>5</sub> at a Target D<sub>5</sub> Concentration of 160 ppm

Sample Type	Radioactivity (µg equiv <sup>14</sup> C-D <sub>5</sub> /g) by Animal Number						
	2021	2022	2023	2024	Mean	%RSD	n
Adrenal Gland	51.4	49.6	54.7	51.1	51.7	4	4
Intestine, Large <sup>a</sup>	242	258	246	267	253	5	4
Intestine, Small <sup>a</sup>	37.5	64.6	48.5	55.3	51.5	22	4
Kidney	12.7	13.7	14.1	12.9	13.3	5	4
Liver	20.2	23.0	19.8	20.9	21.0	7	4
Lung	25.7	25.9	23.8	27.6	25.7	6	4
Nasal Cavity	9.10	9.15	9.22	9.20	9.17	1	4
Pancreas	12.1	12.3	12.5	12.0	12.2	2	4
Perirenal Fat	7.98	6.96	7.85	9.87	8.16	15	4
Plasma	2.03	2.23	2.03	1.96	2.06	6	4
Spleen	5.62	6.49	5.48	5.59	5.79	8	4
Stomach <sup>a</sup>	7.70	11.6	9.99	8.28	9.40	19	4
Testes	2.13	2.07	1.86	1.97	2.01	6	4
Thymus	11.5	13.5	7.58	7.49	10.0	30	4
Thyroid	16.5	13.1	13.7	12.3	13.9	13	4
Whole Blood	2.40	2.82	2.49	2.60	2.58	7	4

a: Includes contents.

**Table 46** Concentration of Administered Radioactivity in Samples from Male Rats at 12 Hr Following a Single, Nose-Only, Vapor Inhalation Exposure to <sup>14</sup>C-D<sub>5</sub> at a Target D<sub>5</sub> Concentration of 160 ppm

Sample Type	Radioactivity (µg equiv <sup>14</sup> C-D <sub>5</sub> /g) by Animal Number						n
	2025	2026	2027	2028	Mean	%RSD	
Adrenal Gland	18.9	13.7	17.5	16.8	16.7	13	4
Intestine, Large <sup>a</sup>	73.8	46.8	45.7	38.8	51.3	30	4
Intestine, Small <sup>a</sup>	6.21	5.66	7.54	6.59	6.50	12	4
Kidney	5.37	4.86	5.06	4.73	5.01	6	4
Liver	9.01	7.31	10.1	9.63	9.01	14	4
Lung	16.3	14.6	14.8	16.6	15.6	7	4
Nasal Cavity	3.50	3.12	3.56	2.92	3.27	9	4
Pancreas	7.33	6.30	8.15	5.78	6.89	15	4
Perirenal Fat	7.44	7.14	7.59	6.45	7.15	7	4
Plasma	0.796	0.720	0.822	0.726	0.766	7	4
Spleen	1.94	2.04	1.79	1.67	1.86	9	4
Stomach <sup>a</sup>	0.809	1.91	1.23	1.26	1.30	35	4
Testes	1.29	1.19	1.25	1.12	1.21	6	4
Thymus	8.82	6.42	8.08	7.13	7.61	14	4
Thyroid	12.6	8.17	9.80	6.17	9.20	30	4
Whole Blood	0.976	0.911	0.986	0.827	0.925	8	4

a: Includes contents.

**Table 47** Concentration of Administered Radioactivity in Samples from Male Rats at 24 Hr Following a Single, Nose-Only, Vapor Inhalation Exposure to <sup>14</sup>C-D<sub>5</sub> at a Target D<sub>5</sub> Concentration of 160 ppm

Sample Type	Radioactivity (µg equiv <sup>14</sup> C-D <sub>5</sub> /g) by Animal Number						
	2029	2030	2031	2032	Mean	%RSD	n
Adrenal Gland	8.88	6.67	9.47	5.70	7.68	23	4
Intestine, Large <sup>a</sup>	17.1	17.9	15.5	16.6	16.8	6	4
Intestine, Small <sup>a</sup>	3.81	2.97	3.49	2.89	3.29	13	4
Kidney	2.17	2.05	2.82	1.53	2.14	25	4
Liver	7.30	6.01	6.81	5.05	6.29	16	4
Lung	9.60	12.0	12.9	11.5	11.5	12	4
Nasal Cavity	1.91	1.91	2.01	1.74	1.89	6	4
Pancreas	4.09	3.40	3.83	3.86	3.80	8	4
Perirenal Fat	4.92	5.44	5.42	5.22	5.25	5	4
Plasma	0.457	0.400	0.443	0.317	0.404	16	4
Spleen	1.15	0.952	1.65	0.798	1.14	33	4
Stomach <sup>a</sup>	2.15	1.26	1.58	1.08	1.52	31	4
Testes	0.842	0.803	0.854	0.638	0.784	13	4
Thymus	5.44	5.34	6.40	8.77	6.49	25	4
Thyroid	5.26	7.74	6.08	7.14	6.56	17	4
Whole Blood	0.486	0.450	0.501	0.325	0.441	18	4

a: Includes contents.

**Table 48** Concentration of Administered Radioactivity in Samples from Male Rats at 48 Hr Following a Single, Nose-Only, Vapor Inhalation Exposure to <sup>14</sup>C-D<sub>5</sub> at a Target D<sub>5</sub> Concentration of 160 ppm

Sample Type	Radioactivity (µg equiv <sup>14</sup> C-D <sub>5</sub> /g) by Animal Number						
	2033	2034	2035	2036	Mean	%RSD	n
Adrenal Gland	3.35	4.77	4.76	8.70	5.40	43	4
Intestine, Large <sup>a</sup>	2.34	2.41	2.58	3.62	2.74	22	4
Intestine, Small <sup>a</sup>	1.55	1.67	1.74	2.74	1.92	29	4
Kidney	0.928	1.05	1.01	1.45	1.11	21	4
Liver	3.34	4.46	3.76	6.51	4.52	31	4
Lung	16.1	7.30	13.0	8.67	11.3	36	4
Nasal Cavity	1.28	1.15	1.34	1.57	1.34	13	4
Pancreas	2.65	1.73	2.97	3.33	2.67	26	4
Perirenal Fat	5.35	5.88	6.24	8.41	6.47	21	4
Plasma	0.166	0.191	0.182	0.258	0.199	20	4
Spleen	0.582	1.11	0.662	1.02	0.843	31	4
Stomach <sup>a</sup>	0.810	1.12	1.09	1.54	1.14	26	4
Testes	0.520	0.586	0.646	0.854	0.652	22	4
Thymus	3.57	3.92	6.24	4.77	4.62	26	4
Thyroid	4.56	2.39	5.64	4.41	4.25	32	4
Whole Blood	0.172	0.198	0.213	0.310	0.223	27	4

a: Includes contents.

**Table 49** Concentration of Administered Radioactivity in Samples from Male Rats at 72 Hr Following a Single, Nose-Only, Vapor Inhalation Exposure to <sup>14</sup>C-D<sub>5</sub> at a Target D<sub>5</sub> Concentration of 160 ppm

Sample Type	Radioactivity (µg equiv <sup>14</sup> C-D <sub>5</sub> /g) by Animal Number						
	2037	2038	2039	2040	Mean	%RSD	n
Adrenal Gland	2.33	5.17	3.11	5.12	3.93	36	4
Intestine, Large <sup>a</sup>	1.28	1.61	1.37	1.59	1.46	11	4
Intestine, Small <sup>a</sup>	1.22	1.30	1.21	1.37	1.28	6	4
Kidney	0.812	0.888	0.818	0.902	0.855	5	4
Liver	2.30	3.25	2.98	2.38	2.73	17	4
Lung	10.8	10.2	9.71	10.8	10.4	5	4
Nasal Cavity	1.11	1.18	1.18	1.18	1.16	3	4
Pancreas	2.24	3.02	1.61	1.93	2.20	27	4
Perirenal Fat	5.55	6.07	5.81	5.78	5.80	4	4
Plasma	0.111	0.139	0.117	0.111	0.119	11	4
Spleen	0.507	0.628	0.632	0.573	0.585	10	4
Stomach <sup>a</sup>	0.495	0.371	1.06	0.376	0.576	57	4
Testes	0.456	0.536	0.478	0.528	0.500	8	4
Thymus	4.73	3.93	3.77	1.71	3.53	36	4
Thyroid	3.38	7.44	5.18	5.61	5.40	31	4
Whole Blood	0.140	0.172	0.148	0.108	0.142	19	4

a: Includes contents.

**Table 50** Concentration of Administered Radioactivity in Samples from Male Rats at 96 Hr Following a Single, Nose-Only, Vapor Inhalation Exposure to <sup>14</sup>C-D<sub>5</sub> at a Target D<sub>5</sub> Concentration of 160 ppm

Sample Type	Radioactivity (µg equiv <sup>14</sup> C-D <sub>5</sub> /g) by Animal Number						
	2041	2042	2043	2044	Mean	%RSD	n
Adrenal Gland	2.06	9.96	4.35	7.64	6.00	58	4
Intestine, Large <sup>a</sup>	0.725	1.10	1.12	1.30	1.06	23	4
Intestine, Small <sup>a</sup>	0.597	0.992	1.28	1.41	1.07	34	4
Kidney	0.472	1.31	0.745	0.924	0.862	41	4
Liver	1.13	2.01	2.53	2.67	2.09	33	4
Lung	8.36	8.48	8.35	9.66	8.71	7	4
Nasal Cavity	0.715	0.966	1.09	1.14	0.977	19	4
Pancreas	0.890	3.11	2.82	2.54	2.34	43	4
Perirenal Fat	3.14	4.90	5.40	7.05	5.12	31	4
Plasma	0.0546	0.0931	0.104	0.117	0.0923	29	4
Spleen	0.314	0.549	0.530	0.909	0.575	43	4
Stomach <sup>a</sup>	0.337	0.570	0.603	1.04	0.638	46	4
Testes	0.275	0.492	0.480	0.549	0.449	27	4
Thymus	3.98	2.53	2.69	4.27	3.37	26	4
Thyroid	2.69	6.20	4.84	4.15	4.47	33	4
Whole Blood	0.0647	0.112	0.101	0.162	0.110	36	4

a: Includes contents.

**Table 51** Concentration of Administered Radioactivity in Samples from Male Rats at 120 Hr Following a Single, Nose-Only, Vapor Inhalation Exposure to <sup>14</sup>C-D<sub>5</sub> at a Target D<sub>5</sub> Concentration of 160 ppm

Sample Type	Radioactivity (µg equiv <sup>14</sup> C-D <sub>5</sub> /g) by Animal Number						
	2045	2046	2047	2048	Mean	%RSD	n
Adrenal Gland	2.17	3.09	3.23	5.58	3.52	41	4
Intestine, Large <sup>a</sup>	0.984	0.963	0.608	1.06	0.904	22	4
Intestine, Small <sup>a</sup>	0.937	1.04	0.757	0.913	0.913	13	4
Kidney	0.642	0.858	0.554	1.26	0.828	38	4
Liver	1.76	1.57	1.30	1.59	1.55	12	4
Lung	8.74	8.71	9.50	9.83	9.20	6	4
Nasal Cavity	0.824	0.871	1.00	0.960	0.914	9	4
Pancreas	1.29	1.94	1.28	2.24	1.69	28	4
Perirenal Fat	5.44	4.97	4.15	4.99	4.89	11	4
Plasma	0.0689	0.0711	0.0629	0.0818	0.0712	11	4
Spleen	0.493	0.485	0.457	0.534	0.492	6	4
Stomach <sup>a</sup>	0.403	0.518	0.394	1.19	0.625	61	4
Testes	0.388	0.438	0.377	0.439	0.410	8	4
Thymus	2.47	4.61	1.45	3.63	3.04	45	4
Thyroid	2.90	119	7.36	3.68	33.3	172	4
Whole Blood	0.0918	0.101	0.0786	0.109	0.0950	14	4

a: Includes contents.

**Table 52** Concentration of Administered Radioactivity in Samples from Male Rats at 168 Hr Following a Single, Nose-Only, Vapor Inhalation Exposure to <sup>14</sup>C-D<sub>5</sub> at a Target D<sub>5</sub> Concentration of 160 ppm

Sample Type	Radioactivity (µg equiv <sup>14</sup> C-D <sub>5</sub> /g) by Animal Number							
	2049	2050	2051	2052	2053	Mean	%RSD	n
Adrenal Gland	3.09	4.20	2.00	5.10	4.75	3.83	33	5
Carcass, Remaining	1.58	1.36	1.47	1.40	1.37	1.43	6	5
Intestine, Large <sup>a</sup>	0.622	0.440	0.550	0.865	0.729	0.641	25	5
Intestine, Small <sup>a</sup>	0.738	0.691	0.652	0.870	0.724	0.735	11	5
Kidney	0.507	0.531	0.550	0.788	1.07	0.690	35	5
Liver	1.28	1.18	1.23	0.880	1.11	1.14	14	5
Lung	6.94	7.47	8.35	8.22	7.90	7.78	7	5
Nasal Cavity	0.876	0.675	0.845	0.767	0.777	0.788	10	5
Pancreas	1.34	2.64	1.98	1.38	1.79	1.82	29	5
Perirenal Fat	4.62	4.19	4.77	4.41	4.39	4.48	5	5
Plasma	0.0472	0.0428	0.0440	0.0443	0.0436	0.0444	4	5
Spleen	0.333	0.362	0.395	0.664	0.443	0.439	30	5
Stomach <sup>a</sup>	0.232	0.202	0.368	0.659	0.251	0.342	55	5
Testes	0.361	0.284	0.356	0.343	0.341	0.337	9	5
Thymus	3.80	1.54	4.55	2.90	3.55	3.27	35	5
Thyroid	2.72	4.05	4.43	2.93	4.32	3.69	22	5
Whole Blood	0.0704	0.0831	0.0817	0.0749	0.0592	0.0739	13	5

a: Includes contents.

**Table 53** Concentration of Administered Radioactivity in Samples from Female Rats at 3.0 Hr Following the Start of a Single, Nose-Only, Vapor Inhalation Exposure to <sup>14</sup>C-D<sub>5</sub> at a Target D<sub>5</sub> Concentration of 160 ppm

Sample Type	Radioactivity (μg equiv <sup>14</sup> C-D <sub>5</sub> /g) by Animal Number						
	2509	2510	2511	2512	Mean	%RSD	n
Plasma	0.901	2.46	1.53	1.38	1.57	42	4
Whole Blood	1.25	3.17	2.19	1.91	2.13	38	4

**Table 54** Concentration of Administered Radioactivity in Samples from Female Rats at 0 Hr Following a Single, Nose-Only, Vapor Inhalation Exposure to <sup>14</sup>C-D<sub>5</sub> at a Target D<sub>5</sub> Concentration of 160 ppm

Sample Type	Radioactivity (μg equiv <sup>14</sup> C-D <sub>5</sub> /g) by Animal Number						
	2513	2514	2515	2516	Mean	%RSD	n
Adrenal Gland	81.2	23.3	93.8	84.5	70.7	45	4
Intestine, Large <sup>a</sup>	96.7	48.9	182	89.9	104	53	4
Intestine, Small <sup>a</sup>	97.4	38.3	114	78.3	82.1	40	4
Kidney	14.3	5.39	13.4	12.8	11.5	36	4
Liver	36.3	12.8	39.0	37.8	31.5	40	4
Lung	53.3	23.0	54.9	68.1	49.8	38	4
Nasal Cavity	21.1	10.7	22.6	27.1	20.4	34	4
Ovaries	17.7	5.02	16.8	16.4	14.0	43	4
Pancreas	10.3	4.03	9.56	9.98	8.46	35	4
Perirenal Fat	8.52	2.47	6.33	12.3	7.42	56	4
Plasma	2.88	1.10	2.25	2.68	2.23	36	4
Spleen	9.72	3.27	9.34	9.75	8.02	40	4
Stomach <sup>a</sup>	35.8	19.8	34.2	38.7	32.1	26	4
Thymus	13.0	3.01	4.69	9.31	7.49	60	4
Thyroid	-- <sup>b</sup>	13.0	19.7	17.9	16.9	21	3
Uterus	5.00	2.33	4.13	4.98	4.11	30	4
Vagina	4.94	1.52	3.42	5.98	3.97	49	4
Whole Blood	3.76	1.46	3.38	3.61	3.05	35	4

a: Includes contents.  
 b: Tissue radioactivity (μg equiv <sup>14</sup>C-D<sub>5</sub>/g) could not be calculated because total sample weight at collection (tissue plus solubilizer and container) was less than tare weight (solubilizer plus container).

**Table 55** Concentration of Administered Radioactivity in Samples from Female Rats at 1 Hr Following a Single, Nose-Only, Vapor Inhalation Exposure to <sup>14</sup>C-D<sub>5</sub> at a Target D<sub>5</sub> Concentration of 160 ppm

Sample Type	Radioactivity (µg equiv <sup>14</sup> C-D <sub>5</sub> /g) by Animal Number						
	2517	2518	2519	2520	Mean	%RSD	n
Adrenal Gland	56.3	45.5	13.6	55.5	42.7	47	4
Intestine, Large <sup>a</sup>	64.3	120	8.94	244	109	92	4
Intestine, Small <sup>a</sup>	80.4	46.6	39.6	62.5	57.3	32	4
Kidney	10.6	10.6	2.64	11.2	8.77	47	4
Liver	22.5	21.0	4.17	29.0	19.2	55	4
Lung	30.1	19.3	6.80	20.2	19.1	50	4
Nasal Cavity	12.5	9.60	3.16	11.4	9.16	46	4
Ovaries	10.7	12.0	2.67	13.6	9.74	50	4
Pancreas	8.52	7.76	2.39	9.65	7.08	45	4
Perirenal Fat	8.26	4.32	2.53	6.57	5.42	46	4
Plasma	1.64	1.56	0.322	1.73	1.32	51	4
Spleen	5.46	4.92	0.992	6.12	4.38	53	4
Stomach <sup>a</sup>	22.7	14.5	2.09	17.7	14.2	62	4
Thymus	8.28	6.50	1.31	4.35	5.11	59	4
Thyroid	-- <sup>b</sup>	11.0	2.78	20.1	11.3	77	3
Uterus	3.90	3.21	0.842	3.09	2.76	48	4
Vagina	3.75	2.45	0.968	2.47	2.41	47	4
Whole Blood	1.86	2.02	0.428	2.39	1.67	51	4

a: Includes contents.

b: Tissue radioactivity (µg equiv <sup>14</sup>C-D<sub>5</sub>/g) could not be calculated because total sample weight at collection (tissue plus solubilizer and container) was less than tare weight (solubilizer plus container).

**Table 56** Concentration of Administered Radioactivity in Samples from Female Rats at 3 Hr Following a Single, Nose-Only, Vapor Inhalation Exposure to <sup>14</sup>C-D<sub>5</sub> at a Target D<sub>5</sub> Concentration of 160 ppm

Sample Type	Radioactivity (μg equiv <sup>14</sup> C-D <sub>5</sub> /g) by Animal Number						
	2521	2522	2523	2524	Mean	%RSD	n
Adrenal Gland	18.5	24.9	53.2	51.6	37.1	48	4
Intestine, Large <sup>a</sup>	80.5	92.6	172	110	114	36	4
Intestine, Small <sup>a</sup>	9.13	11.7	24.5	19.5	16.2	44	4
Kidney	4.17	5.78	9.40	7.67	6.76	34	4
Liver	7.05	7.69	19.0	11.7	11.3	48	4
Lung	7.81	8.85	14.0	16.0	11.7	34	4
Nasal Cavity	2.93	3.93	6.85	6.34	5.01	38	4
Ovaries	4.83	10.5	7.88	7.05	7.56	31	4
Pancreas	3.57	5.34	9.57	8.23	6.68	41	4
Perirenal Fat	2.58	3.91	9.01	6.20	5.42	52	4
Plasma	0.522	0.648	1.16	1.07	0.850	37	4
Spleen	1.40	2.19	3.18	2.85	2.40	33	4
Stomach <sup>a</sup>	3.56	4.74	8.51	-- <sup>b</sup>	5.60	46	3
Thymus	3.18	5.72	6.44	3.14	4.62	37	4
Thyroid	6.03	8.17	10.1	15.3	9.88	40	4
Uterus	1.37	1.59	3.87	2.92	2.44	48	4
Vagina	2.44	1.89	2.68	2.25	2.32	14	4
Whole Blood	0.685	0.814	1.49	1.39	1.09	37	4

a: Includes contents.  
 b: Tissue radioactivity (μg equiv <sup>14</sup>C-D<sub>5</sub>/g) could not be calculated because total sample weight at collection (tissue plus solubilizer and container) was less than tare weight (solubilizer plus container).

**Table 57** Concentration of Administered Radioactivity in Samples from Female Rats at 12 Hr Following a Single, Nose-Only, Vapor Inhalation Exposure to <sup>14</sup>C-D<sub>5</sub> at a Target D<sub>5</sub> Concentration of 160 ppm

Sample Type	Radioactivity (µg equiv <sup>14</sup> C-D <sub>5</sub> /g) by Animal Number						
	2525	2526	2527	2528	Mean	%RSD	n
Adrenal Gland	21.0	25.4	19.0	21.7	21.8	12	4
Intestine, Large <sup>a</sup>	42.7	22.7	19.7	31.9	29.3	35	4
Intestine, Small <sup>a</sup>	6.04	4.80	5.91	4.66	5.35	14	4
Kidney	4.80	3.76	5.28	3.54	4.35	19	4
Liver	8.53	7.45	9.19	8.16	8.33	9	4
Lung	9.50	11.0	9.44	8.47	9.59	11	4
Nasal Cavity	2.58	2.34	2.32	2.44	2.42	5	4
Ovaries	8.56	9.93	7.34	7.59	8.36	14	4
Pancreas	4.69	5.41	5.17	5.17	5.11	6	4
Perirenal Fat	9.27	5.98	8.15	8.90	8.08	18	4
Plasma	0.548	0.454	0.519	0.427	0.487	12	4
Spleen	1.15	5.97	1.37	1.17	2.41	98	4
Stomach <sup>a</sup>	1.63	1.36	6.25	1.28	2.63	92	4
Thymus	4.48	3.17	4.27	7.68	4.90	40	4
Thyroid	8.49	25.3	9.68	13.7	14.3	54	4
Uterus	2.65	1.92	2.43	1.86	2.22	17	4
Vagina	1.76	1.56	3.69	2.44	2.36	41	4
Whole Blood	0.605	0.527	0.615	0.444	0.548	15	4

a: Includes contents.

**Table 58** Concentration of Administered Radioactivity in Samples from Female Rats at 24 Hr Following a Single, Nose-Only, Vapor Inhalation Exposure to <sup>14</sup>C-D<sub>5</sub> at a Target D<sub>5</sub> Concentration of 160 ppm

Sample Type	Radioactivity (µg equiv <sup>14</sup> C-D <sub>5</sub> /g) by Animal Number						
	2529	2530	2531	2532	Mean	%RSD	n
Adrenal Gland	5.57	7.79	14.0	9.55	9.22	39	4
Intestine, Large <sup>a</sup>	4.62	6.52	14.3	18.1	10.9	59	4
Intestine, Small <sup>a</sup>	1.75	2.07	3.40	3.52	2.69	34	4
Kidney	1.08	1.26	2.82	2.14	1.82	44	4
Liver	3.11	4.09	6.73	6.22	5.04	34	4
Lung	6.63	4.89	7.62	8.82	6.99	24	4
Nasal Cavity	1.05	1.10	2.20	2.03	1.59	38	4
Ovaries	2.58	3.40	5.75	5.26	4.25	35	4
Pancreas	2.13	2.47	4.50	4.40	3.38	37	4
Perirenal Fat	4.01	3.83	6.56	8.36	5.69	38	4
Plasma	0.145	0.190	0.343	0.343	0.255	40	4
Spleen	0.414	0.551	1.07	0.949	0.747	42	4
Stomach <sup>a</sup>	0.876	14.9	1.83	2.10	4.93	135	4
Thymus	1.59	2.71	4.80	5.32	3.60	49	4
Thyroid	4.03	4.99	4.60	9.84	5.86	46	4
Uterus	1.05	1.23	1.17	2.01	1.37	32	4
Vagina	0.848	1.09	2.68	1.97	1.64	51	4
Whole Blood	0.147	0.216	0.352	0.387	0.276	41	4

a: Includes contents.

**Table 59** Concentration of Administered Radioactivity in Samples from Female Rats at 48 Hr Following a Single, Nose-Only, Vapor Inhalation Exposure to <sup>14</sup>C-D<sub>5</sub> at a Target D<sub>5</sub> Concentration of 160 ppm

Sample Type	Radioactivity (µg equiv <sup>14</sup> C-D <sub>5</sub> /g) by Animal Number						
	2533	2534	2535	2536	Mean	%RSD	n
Adrenal Gland	9.26	9.73	7.36	1.63	6.99	53	4
Intestine, Large <sup>a</sup>	3.40	3.05	2.50	0.796	2.44	47	4
Intestine, Small <sup>a</sup>	2.02	1.96	1.51	0.504	1.50	47	4
Kidney	1.26	1.52	1.05	0.348	1.04	48	4
Liver	5.11	5.13	4.34	0.886	3.87	52	4
Lung	8.07	5.32	8.29	3.32	6.25	38	4
Nasal Cavity	1.47	1.34	1.42	0.460	1.17	41	4
Ovaries	4.80	4.50	3.26	1.04	3.40	50	4
Pancreas	4.35	3.40	2.53	0.847	2.78	53	4
Perirenal Fat	6.07	6.60	6.12	1.68	5.12	45	4
Plasma	0.177	0.137	0.158	0.0309	0.126	52	4
Spleen	0.710	0.681	0.499	0.135	0.506	52	4
Stomach <sup>a</sup>	0.903	0.969	0.499	0.374	0.686	43	4
Thymus	5.46	2.84	1.73	0.723	2.69	76	4
Thyroid	10.2	4.81	5.82	2.58	5.86	55	4
Uterus	1.08	2.36	0.930	0.587	1.24	63	4
Vagina	3.40	1.14	1.01	0.307	1.46	92	4
Whole Blood	0.195	0.185	0.193	0.0365	0.152	51	4

a: Includes contents.

**Table 60** Concentration of Administered Radioactivity in Samples from Female Rats at 72 Hr Following a Single, Nose-Only, Vapor Inhalation Exposure to <sup>14</sup>C-D<sub>5</sub> at a Target D<sub>5</sub> Concentration of 160 ppm

Sample Type	Radioactivity (µg equiv <sup>14</sup> C-D <sub>5</sub> /g) by Animal Number						
	2537	2538	2539	2540	Mean	%RSD	n
Adrenal Gland	3.02	7.38	7.73	4.94	5.77	38	4
Intestine, Large <sup>a</sup>	1.20	2.40	1.11	2.12	1.71	38	4
Intestine, Small <sup>a</sup>	0.721	2.54	0.972	1.72	1.49	55	4
Kidney	0.592	1.38	1.90	1.16	1.26	43	4
Liver	2.24	6.72	1.94	4.32	3.81	58	4
Lung	5.36	8.90	6.42	7.42	7.02	22	4
Nasal Cavity	0.697	1.46	0.832	1.14	1.03	33	4
Ovaries	1.58	6.09	2.65	3.27	3.40	57	4
Pancreas	0.926	3.10	2.16	1.68	1.97	46	4
Perirenal Fat	4.12	8.93	3.69	6.68	5.85	42	4
Plasma	0.161	0.0593	0.0650	0.125	0.103	48	4
Spleen	0.294	0.839	0.681	0.537	0.588	39	4
Stomach <sup>a</sup>	0.461	1.28	1.55	3.21	1.63	71	4
Thymus	3.34	1.59	2.41	4.26	2.90	40	4
Thyroid	1.47	5.20	4.11	14.2	6.25	89	4
Uterus	0.645	1.45	1.72	0.880	1.17	42	4
Vagina	0.587	1.61	4.06	0.596	1.71	96	4
Whole Blood	0.0812	0.232	0.0861	0.176	0.144	51	4

a: Includes contents.

**Table 61** Concentration of Administered Radioactivity in Samples from Female Rats at 96 Hr Following a Single, Nose-Only, Vapor Inhalation Exposure to <sup>14</sup>C-D<sub>5</sub> at a Target D<sub>5</sub> Concentration of 160 ppm

Sample Type	Radioactivity (µg equiv <sup>14</sup> C-D <sub>5</sub> /g) by Animal Number						
	2541	2542	2543	2544	Mean	%RSD	n
Adrenal Gland	3.60	3.78	5.94	4.05	4.35	25	4
Intestine, Large <sup>a</sup>	0.739	1.35	1.55	0.901	1.14	33	4
Intestine, Small <sup>a</sup>	0.776	1.01	1.47	0.925	1.04	29	4
Kidney	0.746	1.05	1.62	0.767	1.04	39	4
Liver	1.89	3.52	3.39	2.02	2.70	32	4
Lung	6.10	6.14	7.61	7.12	6.74	11	4
Nasal Cavity	0.820	1.02	1.04	0.773	0.913	15	4
Ovaries	2.34	2.95	4.78	2.17	3.06	39	4
Pancreas	0.926	2.12	1.31	1.32	1.42	35	4
Perirenal Fat	5.18	7.57	5.32	5.01	5.77	21	4
Plasma	0.0550	0.0895	0.0795	0.0503	0.0686	28	4
Spleen	0.257	0.484	1.59	0.346	0.668	93	4
Stomach <sup>a</sup>	0.310	0.716	1.39	0.534	0.739	63	4
Thymus	0.723	5.67	4.30	2.52	3.30	65	4
Thyroid	4.45	10.1	6.74	5.66	6.74	36	4
Uterus	0.431	0.763	0.787	0.490	0.618	30	4
Vagina	0.334	0.442	1.19	0.451	0.603	65	4
Whole Blood	0.0678	0.133	0.123	0.0779	0.101	32	4

a: Includes contents.

<b>Table 62</b> Concentration of Administered Radioactivity in Samples from Female Rats at 120 Hr Following a Single, Nose-Only, Vapor Inhalation Exposure to <sup>14</sup> C-D <sub>5</sub> at a Target D <sub>5</sub> Concentration of 160 ppm							
Sample Type	Radioactivity (µg equiv <sup>14</sup> C-D <sub>5</sub> /g) by Animal Number						
	2545	2546	2547	2548	Mean	%RSD	n
Adrenal Gland	5.01	9.40	7.04	4.42	6.47	35	4
Intestine, Large <sup>a</sup>	1.03	1.22	0.925	0.885	1.01	15	4
Intestine, Small <sup>a</sup>	1.60	1.39	0.811	1.21	1.25	27	4
Kidney	0.977	1.72	0.769	0.861	1.08	40	4
Liver	4.29	2.82	2.06	2.79	2.99	31	4
Lung	4.85	6.83	6.63	6.90	6.30	15	4
Nasal Cavity	1.02	0.997	0.787	1.00	0.951	12	4
Ovaries	3.41	5.21	2.04	2.82	3.37	40	4
Pancreas	2.64	1.14	1.57	2.19	1.89	35	4
Perirenal Fat	9.63	7.03	6.79	6.34	7.45	20	4
Plasma	0.0692	0.0685	0.0558	0.0707	0.0661	10	4
Spleen	0.567	0.844	0.383	0.418	0.553	38	4
Stomach <sup>a</sup>	0.844	0.467	0.853	0.782	0.736	25	4
Thymus	7.03	1.33	3.93	2.06	3.59	71	4
Thyroid	54.7	3.78	9.40	-- <sup>b</sup>	22.6	123	3
Uterus	1.20	1.32	2.18	1.27	1.49	31	4
Vagina	0.355	2.06	0.679	0.620	0.929	83	4
Whole Blood	0.139	0.114	0.0727	0.125	0.113	25	4

a: Includes contents.  
 b: Tissue radioactivity (µg equiv <sup>14</sup>C-D<sub>5</sub>/g) could not be calculated because total sample weight at collection (tissue plus solubilizer and container) was less than tare weight (solubilizer plus container).

<b>Table 63</b> Concentration of Administered Radioactivity in Samples from Female Rats at 168 Hr Following a Single, Nose-Only, Vapor Inhalation Exposure to <sup>14</sup> C-D <sub>5</sub> at a Target D <sub>5</sub> Concentration of 160 ppm								
Sample Type	Radioactivity (µg equiv <sup>14</sup> C-D <sub>5</sub> /g) by Animal Number							
	2549	2550	2551	2552	2553	Mean	%RSD	n
Adrenal Gland	8.49	3.01	2.26	4.76	2.14	4.13	64	5
Carcass, Remaining	2.10	1.49	1.08	1.19	0.767	1.32	38	5
Intestine, Large <sup>a</sup>	0.604	0.429	0.414	0.516	0.297	0.452	25	5
Intestine, Small <sup>a</sup>	1.03	0.536	0.484	0.592	0.376	0.604	42	5
Kidney	0.815	0.452	0.437	0.681	0.311	0.539	38	5
Liver	2.11	1.24	0.997	1.01	0.926	1.26	39	5
Lung	6.33	4.97	6.43	5.42	3.67	5.36	21	5
Nasal Cavity	0.934	0.580	0.639	0.615	0.412	0.636	30	5
Ovaries	4.38	1.44	1.26	1.50	0.987	1.91	73	5
Pancreas	2.30	2.05	0.734	0.719	1.02	1.36	55	5
Perirenal Fat	5.34	3.77	4.63	3.71	2.48	3.99	27	5
Plasma	0.0461	0.0305	0.0216	0.0251	0.0157	0.0278	42	5
Spleen	0.308	0.206	0.196	0.457	0.0990	0.253	54	5
Stomach <sup>a</sup>	0.349	0.181	0.417	0.489	0.199	0.327	41	5
Thymus	1.69	2.63	1.21	2.08	1.73	1.86	28	5
Thyroid	-- <sup>b</sup>	4.06	4.61	4.11	5.96	4.69	19	4
Uterus	0.549	0.523	0.531	0.708	0.197	0.502	37	5
Vagina	0.634	0.392	0.0441	0.296	0.695	0.412	64	5
Whole Blood	0.101	0.0351	0.0446	0.0610	0.0282	0.0539	54	5

a: Includes contents.  
 b: Tissue radioactivity (µg equiv <sup>14</sup>C-D<sub>5</sub>/g) could not be calculated because total sample weight at collection (tissue plus solubilizer and container) was less than tare weight (solubilizer plus container).

**Table 64** Ratio of Tissue Radioactivity in Samples to Plasma in Male Rats at 3.0 Hr Following the Start of a Single, Nose-Only, Vapor Inhalation Exposure to <sup>14</sup>C-D<sub>5</sub> at a Target D<sub>5</sub> Concentration of 7 ppm

Sample Type	Ratio [(μg <sup>14</sup> C-D <sub>5</sub> /g or dpm/g) tissue/(μg <sup>14</sup> C-D <sub>5</sub> /g or dpm/g) plasma] by Animal Number						
	1009	1010	1011	1012	Mean	SD	n
Whole Blood	1.21	1.04	1.13	1.17	1.14	0.0722	4

**Table 65** Ratio of Tissue Radioactivity in Samples to Plasma in Male Rats at 0 Hr Following a Single, Nose-Only, Vapor Inhalation Exposure to <sup>14</sup>C-D<sub>5</sub> at a Target D<sub>5</sub> Concentration of 7 ppm

Sample Type	Ratio [(μg <sup>14</sup> C-D <sub>5</sub> /g or dpm/g) tissue/(μg <sup>14</sup> C-D <sub>5</sub> /g or dpm/g) plasma] by Animal Number						
	1013	1014	1015	1016	Mean	SD	n
Adrenal Gland	6.63	8.76	8.58	5.68	7.41	1.50	4
Intestine, Large <sup>a</sup>	33.9	32.1	30.5	28.9	31.4	2.17	4
Intestine, Small <sup>a</sup>	33.6	27.7	22.4	26.5	27.5	4.63	4
Kidney	3.49	3.65	3.49	3.41	3.51	0.102	4
Liver	5.93	5.80	5.43	6.05	5.81	0.270	4
Lung	17.3	14.2	11.9	9.97	13.3	3.15	4
Nasal Cavity	7.26	5.33	5.96	4.67	5.81	1.11	4
Pancreas	2.90	2.53	3.16	2.81	2.85	0.256	4
Perirenal Fat	1.74	1.26	1.63	0.875	1.38	0.393	4
Spleen	2.11	1.98	2.00	1.87	1.99	0.0964	4
Stomach <sup>a</sup>	9.54	10.8	18.6	4.94	11.0	5.65	4
Testes	0.634	0.675	0.620	0.650	0.645	0.0239	4
Thymus	4.68	5.80	2.48	1.50	3.62	1.97	4
Thyroid	8.67	6.14	5.53	44.6	16.2	19.0	4
Whole Blood	1.17	1.17	1.18	1.14	1.16	0.0196	4

a: Includes contents.

**Table 66** Ratio of Tissue Radioactivity in Samples to Plasma in Male Rats at 1 Hr Following a Single, Nose-Only, Vapor Inhalation Exposure to <sup>14</sup>C-D<sub>5</sub> at a Target D<sub>5</sub> Concentration of 7 ppm

Sample Type	Ratio [(μg <sup>14</sup> C-D <sub>5</sub> /g or dpm/g) tissue/(μg <sup>14</sup> C-D <sub>5</sub> /g or dpm/g) plasma] by Animal Number						
	1017	1018	1019	1020	Mean	SD	n
Adrenal Gland	10.6	11.1	10.4	9.37	10.3	0.714	4
Intestine, Large <sup>a</sup>	49.9	35.2	41.2	28.3	38.7	9.16	4
Intestine, Small <sup>a</sup>	21.2	20.8	2.53	5.70	12.6	9.84	4
Kidney	3.61	3.79	3.99	3.95	3.83	0.175	4
Liver	5.55	5.25	5.95	6.02	5.69	0.361	4
Lung	9.71	10.6	7.79	10.9	9.77	1.41	4
Nasal Cavity	3.91	4.12	3.57	4.63	4.06	0.445	4
Pancreas	3.29	3.71	3.44	4.44	3.72	0.510	4
Perirenal Fat	1.93	1.82	1.41	1.84	1.75	0.231	4
Spleen	1.81	1.89	2.09	2.25	2.01	0.198	4
Stomach <sup>a</sup>	7.21	7.44	42.2	46.5	25.8	21.4	4
Testes	0.778	0.781	0.776	1.07	0.850	0.144	4
Thymus	2.86	4.10	3.81	4.02	3.70	0.571	4
Thyroid	3.69	10.2	5.65	3.32	5.71	3.16	4
Whole Blood	1.39	1.28	1.24	1.17	1.27	0.0935	4

a: Includes contents.

**Table 67** Ratio of Tissue Radioactivity in Samples to Plasma in Male Rats at 3 Hr Following a Single, Nose-Only, Vapor Inhalation Exposure to <sup>14</sup>C-D<sub>5</sub> at a Target D<sub>5</sub> Concentration of 7 ppm

Sample Type	Ratio [(μg <sup>14</sup> C-D <sub>5</sub> /g or dpm/g) tissue/(μg <sup>14</sup> C-D <sub>5</sub> /g or dpm/g) plasma] by Animal Number						
	1021	1022	1023	1024	Mean	SD	n
Adrenal Gland	10.1	12.2	10.9	13.2	11.6	1.39	4
Intestine, Large <sup>a</sup>	82.3	57.4	62.0	64.7	66.6	10.9	4
Intestine, Small <sup>a</sup>	9.81	9.12	12.0	9.04	9.98	1.36	4
Kidney	4.03	4.30	4.03	4.23	4.15	0.141	4
Liver	6.21	5.68	6.98	6.33	6.30	0.535	4
Lung	9.50	11.6	11.0	14.9	11.7	2.29	4
Nasal Cavity	2.99	3.73	3.87	4.16	3.68	0.499	4
Pancreas	4.24	4.90	4.56	4.41	4.53	0.280	4
Perirenal Fat	3.17	3.05	2.31	2.31	2.71	0.464	4
Spleen	1.85	1.65	1.91	1.86	1.82	0.116	4
Stomach <sup>a</sup>	2.13	1.48	2.67	2.71	2.25	0.574	4
Testes	0.965	0.988	1.01	1.05	1.00	0.0362	4
Thymus	4.45	4.77	4.04	3.51	4.19	0.543	4
Thyroid	5.31	12.9	5.34	-- <sup>b</sup>	7.86	4.39	3
Whole Blood	1.12	1.12	1.20	1.15	1.15	0.0377	4

a: Includes contents.  
 b: Ratio could not be calculated because total sample weight at collection (tissue plus solubilizer and container) was less than tare weight (solubilizer plus container).

**Table 68** Ratio of Tissue Radioactivity in Samples to Plasma in Male Rats at 12 Hr Following a Single, Nose-Only, Vapor Inhalation Exposure to <sup>14</sup>C-D<sub>5</sub> at a Target D<sub>5</sub> Concentration of 7 ppm

Sample Type	Ratio [(μg <sup>14</sup> C-D <sub>5</sub> /g or dpm/g) tissue/(μg <sup>14</sup> C-D <sub>5</sub> /g or dpm/g) plasma] by Animal Number						
	1025	1026	1027	1028	Mean	SD	n
Adrenal Gland	8.66	11.3	13.1	9.86	10.7	1.90	4
Intestine, Large <sup>a</sup>	25.4	69.1	32.8	54.2	45.4	20.0	4
Intestine, Small <sup>a</sup>	5.12	6.33	5.90	6.34	5.92	0.571	4
Kidney	3.64	4.13	4.09	4.27	4.03	0.275	4
Liver	7.24	8.23	8.55	7.26	7.82	0.670	4
Lung	17.7	12.7	15.9	21.0	16.8	3.49	4
Nasal Cavity	4.23	4.43	6.66	6.03	5.34	1.20	4
Pancreas	5.01	6.03	6.77	6.97	6.19	0.889	4
Perirenal Fat	4.86	5.48	6.34	6.66	5.83	0.816	4
Spleen	1.76	2.59	2.18	2.18	2.18	0.341	4
Stomach <sup>a</sup>	1.88	1.72	1.50	2.04	1.79	0.231	4
Testes	0.985	1.11	1.18	1.21	1.12	0.101	4
Thymus	8.16	8.72	7.32	4.55	7.19	1.85	4
Thyroid	6.27	5.91	3.80	9.69	6.42	2.44	4
Whole Blood	0.881	1.06	1.11	1.14	1.05	0.116	4

a: Includes contents.

**Table 69** Ratio of Tissue Radioactivity in Samples to Plasma in Male Rats at 24 Hr Following a Single, Nose-Only, Vapor Inhalation Exposure to <sup>14</sup>C-D<sub>5</sub> at a Target D<sub>5</sub> Concentration of 7 ppm

Sample Type	Ratio [(μg <sup>14</sup> C-D <sub>5</sub> /g or dpm/g) tissue/(μg <sup>14</sup> C-D <sub>5</sub> /g or dpm/g) plasma] by Animal Number						
	1029	1030	1031	1032	Mean	SD	n
Adrenal Gland	11.3	13.1	17.5	12.1	13.5	2.74	4
Intestine, Large <sup>a</sup>	19.5	21.8	28.1	29.4	24.7	4.82	4
Intestine, Small <sup>a</sup>	6.26	5.93	6.11	5.50	5.95	0.329	4
Kidney	4.03	4.64	4.46	3.73	4.22	0.413	4
Liver	10.3	10.8	9.27	8.75	9.79	0.948	4
Lung	26.0	20.5	28.2	24.2	24.7	3.27	4
Nasal Cavity	6.13	6.02	8.84	6.00	6.75	1.40	4
Pancreas	6.45	6.86	7.09	6.99	6.85	0.280	4
Perirenal Fat	8.64	8.00	12.0	6.55	8.80	2.30	4
Spleen	2.62	2.69	2.41	2.25	2.49	0.202	4
Stomach <sup>a</sup>	2.84	2.46	1.84	2.06	2.30	0.444	4
Testes	1.35	1.47	1.49	1.23	1.39	0.121	4
Thymus	16.4	11.2	14.1	7.88	12.4	3.68	4
Thyroid	9.36	11.5	5.67	8.87	8.84	2.39	4
Whole Blood	0.940	0.901	0.944	0.855	0.910	0.0415	4

a: Includes contents.

**Table 70** Ratio of Tissue Radioactivity in Samples to Plasma in Male Rats at 48 Hr Following a Single, Nose-Only, Vapor Inhalation Exposure to <sup>14</sup>C-D<sub>5</sub> at a Target D<sub>5</sub> Concentration of 7 ppm

Sample Type	Ratio [(μg <sup>14</sup> C-D <sub>5</sub> /g or dpm/g) tissue/(μg <sup>14</sup> C-D <sub>5</sub> /g or dpm/g) plasma] by Animal Number						
	1033	1034	1035	1036	Mean	SD	n
Adrenal Gland	20.1	16.4	20.8	22.1	19.8	2.44	4
Intestine, Large <sup>a</sup>	6.61	7.15	8.22	6.91	7.22	0.699	4
Intestine, Small <sup>a</sup>	5.97	6.30	6.45	6.60	6.33	0.269	4
Kidney	5.62	4.61	5.66	4.35	5.06	0.679	4
Liver	12.6	11.4	11.9	20.1	14.0	4.09	4
Lung	39.5	35.0	35.6	21.5	32.9	7.87	4
Nasal Cavity	9.12	9.58	9.33	6.33	8.59	1.52	4
Pancreas	10.2	7.25	8.28	10.9	9.14	1.67	4
Perirenal Fat	17.3	16.8	17.1	13.3	16.1	1.86	4
Spleen	3.49	3.75	4.03	3.84	3.78	0.224	4
Stomach <sup>a</sup>	3.32	3.14	3.29	2.33	3.02	0.467	4
Testes	2.11	1.88	2.15	1.87	2.01	0.148	4
Thymus	25.2	23.4	25.0	7.38	20.2	8.61	4
Thyroid	10.2	9.57	19.4	8.09	11.8	5.13	4
Whole Blood	1.19	1.22	1.13	1.21	1.18	0.0394	4

a: Includes contents.

**Table 71** Ratio of Tissue Radioactivity in Samples to Plasma in Male Rats at 72 Hr Following a Single, Nose-Only, Vapor Inhalation Exposure to <sup>14</sup>C-D<sub>5</sub> at a Target D<sub>5</sub> Concentration of 7 ppm

Sample Type	Ratio [( $\mu\text{g } ^{14}\text{C-D}_5/\text{g}$ or $\text{dpm/g}$ ) tissue]/[( $\mu\text{g } ^{14}\text{C-D}_5/\text{g}$ or $\text{dpm/g}$ ) plasma] by Animal Number						
	1037	1038	1039	1040	Mean	SD	n
Adrenal Gland	24.5	13.9	13.6	25.4	19.3	6.49	4
Intestine, Large <sup>a</sup>	6.15	4.48	4.91	4.41	4.99	0.805	4
Intestine, Small <sup>a</sup>	6.01	4.79	5.91	6.32	5.76	0.671	4
Kidney	5.94	5.00	5.31	7.81	6.02	1.26	4
Liver	14.7	12.3	15.0	14.6	14.1	1.26	4
Lung	57.0	48.6	26.8	35.1	41.9	13.5	4
Nasal Cavity	12.7	12.1	8.31	8.54	10.4	2.30	4
Pancreas	10.0	13.4	7.30	7.67	9.61	2.83	4
Perirenal Fat	22.7	16.9	17.8	19.3	19.2	2.54	4
Spleen	4.42	3.66	4.34	5.34	4.44	0.691	4
Stomach <sup>a</sup>	2.51	2.81	3.03	5.39	3.43	1.32	4
Testes	2.56	2.38	2.18	2.19	2.33	0.180	4
Thymus	32.5	9.15	18.4	18.3	19.6	9.65	4
Thyroid	14.3	13.4	12.2	17.7	14.4	2.37	4
Whole Blood	1.28	0.840	1.40	1.08	1.15	0.245	4

a: Includes contents.

**Table 72** Ratio of Tissue Radioactivity in Samples to Plasma in Male Rats at 96 Hr Following a Single, Nose-Only, Vapor Inhalation Exposure to <sup>14</sup>C-D<sub>5</sub> at a Target D<sub>5</sub> Concentration of 7 ppm

Sample Type	Ratio [(μg <sup>14</sup> C-D <sub>5</sub> /g or dpm/g) tissue/(μg <sup>14</sup> C-D <sub>5</sub> /g or dpm/g) plasma] by Animal Number						
	1041	1042	1043	1044	Mean	SD	n
Adrenal Gland	32.2	26.6	43.6	22.3	31.2	9.21	4
Intestine, Large <sup>a</sup>	10.9	4.01	5.98	5.66	6.64	2.97	4
Intestine, Small <sup>a</sup>	9.48	6.32	7.95	6.25	7.50	1.54	4
Kidney	7.50	6.44	8.28	6.58	7.20	0.857	4
Liver	16.6	16.7	15.7	15.1	16.0	0.734	4
Lung	63.0	52.9	64.4	60.2	60.1	5.13	4
Nasal Cavity	13.7	11.5	14.1	13.7	13.3	1.21	4
Pancreas	22.2	11.7	9.09	9.22	13.1	6.23	4
Perirenal Fat	28.4	28.2	26.8	20.2	25.9	3.84	4
Spleen	6.07	5.29	5.62	5.14	5.53	0.411	4
Stomach <sup>a</sup>	6.54	5.23	8.39	3.59	5.94	2.03	4
Testes	3.30	2.89	3.46	2.84	3.12	0.304	4
Thymus	20.6	22.5	21.8	37.8	25.7	8.12	4
Thyroid	20.5	16.9	15.7	37.8	22.7	10.3	4
Whole Blood	1.48	1.43	1.39	1.32	1.41	0.0701	4

a: Includes contents.

**Table 73** Ratio of Tissue Radioactivity in Samples to Plasma in Male Rats at 120 Hr Following a Single, Nose-Only, Vapor Inhalation Exposure to <sup>14</sup>C-D<sub>5</sub> at a Target D<sub>5</sub> Concentration of 7 ppm

Sample Type	Ratio [(μg <sup>14</sup> C-D <sub>5</sub> /g or dpm/g) tissue/(μg <sup>14</sup> C-D <sub>5</sub> /g or dpm/g) plasma] by Animal Number						
	1045	1046	1047	1048	Mean	SD	n
Adrenal Gland	28.9	33.5	31.0	30.1	30.9	1.94	4
Intestine, Large <sup>a</sup>	4.89	5.71	5.62	7.48	5.92	1.10	4
Intestine, Small <sup>a</sup>	7.19	7.29	8.48	11.3	8.55	1.90	4
Kidney	6.03	8.73	7.35	9.87	8.00	1.67	4
Liver	14.6	15.1	20.0	13.7	15.9	2.82	4
Lung	59.4	62.9	63.8	107	73.3	22.5	4
Nasal Cavity	12.2	16.6	-- <sup>b</sup>	21.8	16.9	4.85	3
Pancreas	17.6	15.5	16.4	20.5	17.5	2.17	4
Perirenal Fat	29.3	34.6	35.1	31.5	32.6	2.74	4
Spleen	5.16	5.94	5.95	6.71	5.94	0.633	4
Stomach <sup>a</sup>	2.65	3.16	2.88	8.92	4.40	3.02	4
Testes	3.08	3.55	-- <sup>b</sup>	4.36	3.67	0.647	3
Thymus	21.6	28.8	28.5	47.1	31.5	10.9	4
Thyroid	12.7	17.9	31.6	48.6	27.7	16.0	4
Whole Blood	1.38	1.56	1.59	1.81	1.58	0.175	4

a: Includes contents.  
 b: Sample collection error.

**Table 74** Ratio of Tissue Radioactivity in Samples to Plasma in Male Rats at 168 Hr Following a Single, Nose-Only, Vapor Inhalation Exposure to <sup>14</sup>C-D<sub>5</sub> at a Target D<sub>5</sub> Concentration of 7 ppm

Sample Type	Ratio [(μg <sup>14</sup> C-D <sub>5</sub> /g or dpm/g) tissue/(μg <sup>14</sup> C-D <sub>5</sub> /g or dpm/g) plasma] by Animal Number							
	1049	1050	1051	1052	1053	Mean	SD	n
Adrenal Gland	51.8	36.8	56.0	66.1	31.3	48.4	14.2	5
Carcass, Remaining	10.1	15.4	15.7	13.2	10.1	12.9	2.75	5
Intestine, Large <sup>a</sup>	6.77	8.92	7.16	11.8	6.83	8.29	2.14	5
Intestine, Small <sup>a</sup>	6.03	11.3	7.68	8.99	8.30	8.46	1.93	5
Kidney	7.20	8.27	10.4	14.3	7.78	9.60	2.91	5
Liver	18.8	17.0	18.2	15.8	15.3	17.0	1.52	5
Lung	51.4	78.2	84.5	50.9	71.0	67.2	15.4	5
Nasal Cavity	10.5	20.8	16.3	16.2	13.1	15.4	3.89	5
Pancreas	19.8	13.6	13.1	13.7	19.1	15.9	3.30	5
Perirenal Fat	62.7	48.6	-- <sup>b</sup>	80.2	78.9	67.6	15.0	4
Spleen	4.87	6.33	6.75	9.61	5.34	6.58	1.85	5
Stomach <sup>a</sup>	4.11	7.07	10.3	4.80	4.87	6.23	2.54	5
Testes	3.06	3.82	4.60	4.06	3.49	3.81	0.584	5
Thymus	39.2	58.2	30.9	27.9	24.7	36.2	13.4	5
Thyroid	15.8	32.3	34.7	20.7	16.9	24.1	8.84	5
Whole Blood	1.49	1.66	1.92	1.60	1.53	1.64	0.167	5

a: Includes contents.  
 b: Sample not collected by accident – see protocol deviation.

**Table 75** Ratio of Tissue Radioactivity in Samples to Plasma in Female Rats at 3.0 Hr Following the Start of a Single, Nose-Only, Vapor Inhalation Exposure to <sup>14</sup>C-D<sub>5</sub> at a Target D<sub>5</sub> Concentration of 7 ppm

Sample Type	Ratio [(μg <sup>14</sup> C-D <sub>5</sub> /g or dpm/g) tissue/(μg <sup>14</sup> C-D <sub>5</sub> /g or dpm/g) plasma] by Animal Number						
	1509	1510	1511	1512	Mean	SD	n
Whole Blood	1.25	1.30	0	1.27	0.953	0.636	4

**Table 76** Ratio of Tissue Radioactivity in Samples to Plasma in Female Rats at 0 Hr Following a Single, Nose-Only, Vapor Inhalation Exposure to <sup>14</sup>C-D<sub>5</sub> at a Target D<sub>5</sub> Concentration of 7 ppm

Sample Type	Ratio [(μg <sup>14</sup> C-D <sub>5</sub> /g or dpm/g) tissue/(μg <sup>14</sup> C-D <sub>5</sub> /g or dpm/g) plasma] by Animal Number						
	1513	1514	1515	1516	Mean	SD	n
Adrenal Gland	13.2	15.7	14.7	13.5	14.3	1.13	4
Intestine, Large <sup>a</sup>	25.3	24.0	27.6	25.2	25.5	1.52	4
Intestine, Small <sup>a</sup>	26.2	24.4	18.9	27.6	24.3	3.82	4
Kidney	3.94	4.10	3.62	4.01	3.92	0.211	4
Liver	8.72	8.47	7.80	9.94	8.73	0.891	4
Lung	15.8	16.9	15.9	11.7	15.1	2.29	4
Nasal Cavity	7.04	8.38	8.64	5.62	7.42	1.39	4
Ovaries	3.77	4.18	3.43	4.81	4.05	0.594	4
Pancreas	3.67	4.37	3.66	3.95	3.91	0.333	4
Perirenal Fat	1.75	2.63	1.91	2.04	2.08	0.385	4
Spleen	2.47	2.63	2.38	2.51	2.50	0.104	4
Stomach <sup>a</sup>	22.0	15.1	5.93	26.1	17.3	8.81	4
Thymus	2.11	4.80	2.76	4.12	3.45	1.23	4
Thyroid	7.09	9.20	5.34	9.76	7.85	2.03	4
Uterus	0.968	1.57	1.87	1.38	1.45	0.378	4
Vagina	1.36	2.10	1.52	1.29	1.57	0.368	4
Whole Blood	1.20	1.25	1.16	1.07	1.17	0.0763	4

a: Includes contents.

**Table 77** Ratio of Tissue Radioactivity in Samples to Plasma in Female Rats at 1 Hr Following a Single, Nose-Only, Vapor Inhalation Exposure to <sup>14</sup>C-D<sub>5</sub> at a Target D<sub>5</sub> Concentration of 7 ppm

Sample Type	Ratio [(μg <sup>14</sup> C-D <sub>5</sub> /g or dpm/g) tissue/(μg <sup>14</sup> C-D <sub>5</sub> /g or dpm/g) plasma] by Animal Number						
	1517	1518	1519	1520	Mean	SD	n
Adrenal Gland	24.6	17.9	19.1	26.0	21.9	3.99	4
Intestine, Large <sup>a</sup>	52.6	46.2	50.3	50.7	49.9	2.68	4
Intestine, Small <sup>a</sup>	10.7	15.7	14.5	15.7	14.2	2.37	4
Kidney	5.34	4.40	4.51	4.88	4.78	0.421	4
Liver	9.68	7.67	8.91	9.04	8.83	0.840	4
Lung	14.5	8.37	10.7	10.5	11.0	2.56	4
Nasal Cavity	5.45	4.01	4.56	4.52	4.63	0.597	4
Ovaries	6.03	3.97	3.71	4.21	4.48	1.06	4
Pancreas	5.70	4.21	4.75	4.70	4.84	0.625	4
Perirenal Fat	4.01	2.29	2.48	2.61	2.85	0.783	4
Spleen	2.61	1.85	2.35	2.26	2.27	0.313	4
Stomach <sup>a</sup>	12.5	13.6	4.95	12.0	10.8	3.95	4
Thymus	4.94	3.94	2.89	3.88	3.91	0.840	4
Thyroid	10.4	6.01	4.30	5.09	6.45	2.72	4
Uterus	2.06	1.77	1.45	1.39	1.67	0.307	4
Vagina	2.04	1.84	1.26	2.03	1.79	0.370	4
Whole Blood	1.15	1.10	1.12	1.15	1.13	0.0254	4

a: Includes contents.

**Table 78** Ratio of Tissue Radioactivity in Samples to Plasma in Female Rats at 3 Hr Following a Single, Nose-Only, Vapor Inhalation Exposure to <sup>14</sup>C-D<sub>5</sub> at a Target D<sub>5</sub> Concentration of 7 ppm

Sample Type	Ratio [(μg <sup>14</sup> C-D <sub>5</sub> /g or dpm/g) tissue/(μg <sup>14</sup> C-D <sub>5</sub> /g or dpm/g) plasma] by Animal Number						
	1521	1522	1523	1524	Mean	SD	n
Adrenal Gland	23.2	22.9	24.7	25.9	24.2	1.40	4
Intestine, Large <sup>a</sup>	60.9	68.9	89.7	83.2	75.7	13.1	4
Intestine, Small <sup>a</sup>	12.4	8.99	9.38	10.2	10.3	1.53	4
Kidney	5.68	6.48	6.21	6.08	6.11	0.332	4
Liver	9.48	10.0	10.4	10.3	10.0	0.408	4
Lung	12.3	12.7	13.0	11.2	12.3	0.801	4
Nasal Cavity	5.65	5.62	5.48	5.26	5.50	0.179	4
Ovaries	5.07	8.71	7.37	6.81	6.99	1.51	4
Pancreas	5.97	6.77	6.52	5.51	6.20	0.565	4
Perirenal Fat	3.88	3.27	4.94	2.92	3.75	0.885	4
Spleen	2.65	2.76	2.25	2.58	2.56	0.217	4
Stomach <sup>a</sup>	4.82	2.74	2.52	2.86	3.23	1.07	4
Thymus	7.54	5.30	8.33	4.97	6.54	1.65	4
Thyroid	12.8	6.26	11.1	-- <sup>b</sup>	10.0	3.38	3
Uterus	2.08	2.48	2.27	1.89	2.18	0.256	4
Vagina	2.20	3.24	2.69	2.28	2.60	0.476	4
Whole Blood	1.22	1.18	1.30	1.20	1.22	0.0525	4

a: Includes contents.  
 b: Ratio could not be calculated because total sample weight at collection (tissue plus solubilizer and container) was less than tare weight (solubilizer plus container).

**Table 79** Ratio of Tissue Radioactivity in Samples to Plasma in Female Rats at 12 Hr Following a Single, Nose-Only, Vapor Inhalation Exposure to <sup>14</sup>C-D<sub>5</sub> at a Target D<sub>5</sub> Concentration of 7 ppm

Sample Type	Ratio [(μg <sup>14</sup> C-D <sub>5</sub> /g or dpm/g) tissue/(μg <sup>14</sup> C-D <sub>5</sub> /g or dpm/g) plasma] by Animal Number						
	1525	1526	1527	1528	Mean	SD	n
Adrenal Gland	31.6	23.1	26.7	24.5	26.5	3.71	4
Intestine, Large <sup>a</sup>	32.5	42.9	31.0	79.5	46.5	22.6	4
Intestine, Small <sup>a</sup>	7.22	6.33	13.5	9.46	9.13	3.21	4
Kidney	7.83	8.47	5.89	5.93	7.03	1.32	4
Liver	12.5	8.85	14.1	16.1	12.9	3.08	4
Lung	21.9	20.8	14.4	11.9	17.3	4.88	4
Nasal Cavity	8.40	9.25	4.89	4.90	6.86	2.30	4
Ovaries	13.7	12.3	14.8	9.79	12.7	2.18	4
Pancreas	9.93	8.65	7.45	8.79	8.71	1.01	4
Perirenal Fat	9.57	7.05	9.02	7.33	8.24	1.24	4
Spleen	3.11	2.66	2.80	2.55	2.78	0.241	4
Stomach <sup>a</sup>	1.88	2.51	57.4	4.47	16.6	27.2	4
Thymus	11.8	6.20	10.1	4.29	8.09	3.44	4
Thyroid	13.8	7.37	7.19	-- <sup>b</sup>	9.45	3.75	3
Uterus	4.64	3.42	2.83	2.35	3.31	0.989	4
Vagina	3.51	2.89	4.13	1.17	2.93	1.27	4
Whole Blood	1.13	0.869	1.03	1.10	1.03	0.119	4

a: Includes contents.  
 b: Ratio could not be calculated because total sample weight at collection (tissue plus solubilizer and container) was less than tare weight (solubilizer plus container).

**Table 80** Ratio of Tissue Radioactivity in Samples to Plasma in Female Rats at 24 Hr Following a Single, Nose-Only, Vapor Inhalation Exposure to <sup>14</sup>C-D<sub>5</sub> at a Target D<sub>5</sub> Concentration of 7 ppm

Sample Type	Ratio [(μg <sup>14</sup> C-D <sub>5</sub> /g or dpm/g) tissue/(μg <sup>14</sup> C-D <sub>5</sub> /g or dpm/g) plasma] by Animal Number						
	1529	1530	1531	1532	Mean	SD	n
Adrenal Gland	28.3	28.2	26.6	26.9	27.5	0.853	4
Intestine, Large <sup>a</sup>	64.1	27.2	26.1	14.8	33.1	21.5	4
Intestine, Small <sup>a</sup>	10.7	9.29	7.92	7.45	8.84	1.47	4
Kidney	7.60	7.08	5.66	6.30	6.66	0.853	4
Liver	21.3	20.5	13.7	17.3	18.2	3.49	4
Lung	24.5	18.8	19.0	19.1	20.4	2.77	4
Nasal Cavity	7.93	7.41	6.98	6.37	7.17	0.662	4
Ovaries	15.5	17.4	10.7	12.1	13.9	3.06	4
Pancreas	10.6	11.6	8.25	9.41	9.97	1.47	4
Perirenal Fat	19.0	12.6	12.9	9.65	13.5	3.90	4
Spleen	3.67	3.37	3.08	3.19	3.33	0.259	4
Stomach <sup>a</sup>	5.15	3.80	3.22	3.07	3.81	0.947	4
Thymus	18.5	6.60	12.7	22.2	15.0	6.85	4
Thyroid	9.35	15.9	28.1	15.6	17.3	7.83	4
Uterus	4.10	5.48	3.34	4.67	4.40	0.904	4
Vagina	3.03	3.75	5.08	4.71	4.14	0.929	4
Whole Blood	1.25	1.19	0.982	0.987	1.10	0.139	4

a: Includes contents.

**Table 81** Ratio of Tissue Radioactivity in Samples to Plasma in Female Rats at 48 Hr Following a Single, Nose-Only, Vapor Inhalation Exposure to <sup>14</sup>C-D<sub>5</sub> at a Target D<sub>5</sub> Concentration of 7 ppm

Sample Type	Ratio [(μg <sup>14</sup> C-D <sub>5</sub> /g or dpm/g) tissue/(μg <sup>14</sup> C-D <sub>5</sub> /g or dpm/g) plasma] by Animal Number						
	1533	1534	1535	1536	Mean	SD	n
Adrenal Gland	40.4	34.6	33.0	40.0	37.0	3.74	4
Intestine, Large <sup>a</sup>	12.9	12.8	10.0	12.5	12.0	1.34	4
Intestine, Small <sup>a</sup>	10.9	9.87	8.53	10.3	9.89	0.996	4
Kidney	9.73	13.6	8.21	9.78	10.3	2.31	4
Liver	26.8	19.2	28.9	26.0	25.2	4.20	4
Lung	39.8	47.2	42.2	54.3	45.9	6.41	4
Nasal Cavity	14.0	19.1	10.8	16.5	15.1	3.53	4
Ovaries	21.0	18.7	20.8	21.6	20.5	1.25	4
Pancreas	15.4	14.9	9.87	18.9	14.8	3.71	4
Perirenal Fat	25.4	16.7	31.7	15.4	22.3	7.66	4
Spleen	6.00	7.04	4.80	5.93	5.94	0.916	4
Stomach <sup>a</sup>	5.20	5.37	3.49	6.91	5.24	1.40	4
Thymus	27.6	16.1	26.3	20.3	22.6	5.35	4
Thyroid	112	24.8	29.5	37.0	50.8	41.1	4
Uterus	7.27	8.14	7.72	7.09	7.56	0.469	4
Vagina	13.2	5.81	4.07	3.92	6.74	4.37	4
Whole Blood	1.27	0.904	1.23	1.24	1.16	0.172	4

a: Includes contents.

**Table 82** Ratio of Tissue Radioactivity in Samples to Plasma in Female Rats at 72 Hr Following a Single, Nose-Only, Vapor Inhalation Exposure to <sup>14</sup>C-D<sub>5</sub> at a Target D<sub>5</sub> Concentration of 7 ppm

Sample Type	Ratio [( $\mu\text{g } ^{14}\text{C-D}_5/\text{g}$ or $\text{dpm/g}$ ) tissue]/( $\mu\text{g } ^{14}\text{C-D}_5/\text{g}$ or $\text{dpm/g}$ ) plasma] by Animal Number						
	1537	1538	1539	1540	Mean	SD	n
Adrenal Gland	55.2	47.5	38.6	53.5	48.7	7.50	4
Intestine, Large <sup>a</sup>	13.2	9.44	10.9	14.0	11.9	2.08	4
Intestine, Small <sup>a</sup>	10.5	12.5	12.5	15.2	12.7	1.93	4
Kidney	12.9	8.20	10.6	12.0	10.9	2.03	4
Liver	26.6	27.9	29.0	33.1	29.1	2.84	4
Lung	91.0	36.7	52.7	65.3	61.4	22.9	4
Nasal Cavity	23.3	10.4	16.7	24.0	18.6	6.38	4
Ovaries	29.2	17.3	25.9	31.0	25.8	6.07	4
Pancreas	17.2	17.8	21.7	14.0	17.7	3.15	4
Perirenal Fat	44.8	28.2	33.2	31.5	34.4	7.21	4
Spleen	7.38	5.31	6.90	10.4	7.50	2.13	4
Stomach <sup>a</sup>	7.27	6.77	9.39	15.4	9.71	3.97	4
Thymus	-- <sup>b</sup>	15.8	37.8	47.2	33.6	16.1	3
Thyroid	47.2	35.8	113	45.8	60.5	35.5	4
Uterus	11.8	8.04	8.31	12.9	10.3	2.46	4
Vagina	5.33	6.01	12.4	12.8	9.15	4.03	4
Whole Blood	1.40	1.17	1.07	1.18	1.20	0.139	4

a: Includes contents.

b: Ratio could not be calculated because total sample weight at collection (tissue plus solubilizer and container) was less than tare weight (solubilizer plus container).

**Table 83** Ratio of Tissue Radioactivity in Samples to Plasma in Female Rats at 96 Hr Following a Single, Nose-Only, Vapor Inhalation Exposure to <sup>14</sup>C-D<sub>5</sub> at a Target D<sub>5</sub> Concentration of 7 ppm

Sample Type	Ratio [(μg <sup>14</sup> C-D <sub>5</sub> /g or dpm/g) tissue/(μg <sup>14</sup> C-D <sub>5</sub> /g or dpm/g) plasma] by Animal Number						
	1541	1542	1543	1544	Mean	SD	n
Adrenal Gland	55.1	46.8	68.4	44.4	53.7	10.8	4
Intestine, Large <sup>a</sup>	10.8	11.2	10.4	9.43	10.5	0.776	4
Intestine, Small <sup>a</sup>	12.1	11.0	12.5	11.5	11.8	0.643	4
Kidney	13.0	13.8	30.7	10.7	17.0	9.17	4
Liver	27.3	27.5	25.8	38.5	29.8	5.87	4
Lung	72.7	75.8	88.7	46.3	70.9	17.8	4
Nasal Cavity	26.3	25.1	29.7	12.9	23.5	7.33	4
Ovaries	29.3	28.1	45.6	23.3	31.6	9.72	4
Pancreas	22.9	17.0	22.3	20.3	20.6	2.66	4
Perirenal Fat	55.0	54.1	48.9	46.1	51.0	4.26	4
Spleen	7.83	7.66	13.5	6.83	8.97	3.08	4
Stomach <sup>a</sup>	6.78	6.13	8.46	8.16	7.38	1.11	4
Thymus	39.9	28.6	70.5	33.1	43.0	18.9	4
Thyroid	89.3	17.2	71.7	80.1	64.6	32.4	4
Uterus	6.06	8.30	11.4	10.1	8.96	2.32	4
Vagina	6.14	5.21	23.5	11.4	11.6	8.39	4
Whole Blood	1.68	1.42	1.21	1.57	1.47	0.205	4

a: Includes contents.

**Table 84** Ratio of Tissue Radioactivity in Samples to Plasma in Female Rats at 120 Hr Following a Single, Nose-Only, Vapor Inhalation Exposure to <sup>14</sup>C-D<sub>5</sub> at a Target D<sub>5</sub> Concentration of 7 ppm

Sample Type	Ratio [(μg <sup>14</sup> C-D <sub>5</sub> /g or dpm/g) tissue/(μg <sup>14</sup> C-D <sub>5</sub> /g or dpm/g) plasma] by Animal Number						
	1545	1546	1547	1548	Mean	SD	n
Adrenal Gland	58.8	61.3	54.3	74.4	62.2	8.62	4
Intestine, Large <sup>a</sup>	9.26	10.1	11.7	12.7	10.9	1.54	4
Intestine, Small <sup>a</sup>	12.9	9.59	13.4	15.9	12.9	2.61	4
Kidney	11.7	12.8	14.0	19.2	14.4	3.31	4
Liver	34.0	30.5	33.9	30.6	32.2	1.97	4
Lung	47.2	61.7	110	115	83.4	34.1	4
Nasal Cavity	15.1	20.8	32.6	24.0	23.1	7.33	4
Ovaries	130	28.0	34.7	36.7	57.4	48.7	4
Pancreas	23.3	14.6	18.6	16.1	18.1	3.83	4
Perirenal Fat	47.7	63.7	53.6	67.0	58.0	8.92	4
Spleen	7.23	7.92	11.0	13.0	9.79	2.69	4
Stomach <sup>a</sup>	5.30	6.75	6.94	15.4	8.60	4.60	4
Thymus	46.2	46.7	39.4	46.0	44.6	3.45	4
Thyroid	72.6	33.1	173	120	99.8	60.5	4
Uterus	12.7	5.22	5.26	7.30	7.62	3.52	4
Vagina	5.92	6.18	6.67	5.74	6.13	0.405	4
Whole Blood	1.44	1.54	1.28	1.93	1.55	0.275	4

a: Includes contents.

**Table 85** Ratio of Tissue Radioactivity in Samples to Plasma in Female Rats at 168 Hr Following a Single, Nose-Only, Vapor Inhalation Exposure to <sup>14</sup>C-D<sub>5</sub> at a Target D<sub>5</sub> Concentration of 7 ppm

Sample Type	Ratio [(μg <sup>14</sup> C-D <sub>5</sub> /g or dpm/g) tissue/(μg <sup>14</sup> C-D <sub>5</sub> /g or dpm/g) plasma] by Animal Number							
	1549	1550	1551	1552	1553	Mean	SD	n
Adrenal Gland	79.9	78.5	115	80.0	90.1	88.7	15.4	5
Carcass, Remaining	24.4	32.9	36.2	34.1	27.8	31.1	4.85	5
Intestine, Large <sup>a</sup>	8.88	14.5	16.3	11.9	18.6	14.0	3.80	5
Intestine, Small <sup>a</sup>	12.4	22.5	20.2	18.5	16.4	18.0	3.86	5
Kidney	15.0	18.3	26.8	17.8	16.3	18.9	4.62	5
Liver	48.3	47.8	41.4	37.1	44.3	43.8	4.67	5
Lung	69.2	83.2	110	124	113	100	22.9	5
Nasal Cavity	23.7	33.7	37.9	41.0	41.6	35.6	7.34	5
Ovaries	34.1	58.7	108	57.4	56.5	63.0	27.3	5
Pancreas	26.6	33.4	23.6	40.6	22.4	29.3	7.61	5
Perirenal Fat	112	95.3	144	94.8	145	118	25.0	5
Spleen	9.29	11.3	13.7	10.7	11.1	11.2	1.58	5
Stomach <sup>a</sup>	10.4	14.3	16.4	16.3	20.2	15.5	3.58	5
Thymus	49.6	100	62.3	44.3	45.9	60.5	23.3	5
Thyroid	69.5	142	77.7	481	73.8	169	177	5
Uterus	12.5	13.5	69.0	113	14.2	44.5	45.4	5
Vagina	5.30	20.1	114	14.7	34.2	37.6	43.9	5
Whole Blood	2.12	1.71	4.14	1.62	8.47	3.61	2.90	5

a: Includes contents.

**Table 86** Ratio of Tissue Radioactivity in Samples to Plasma in Male Rats at 3.0 Hr Following the Start of a Single, Nose-Only, Vapor Inhalation Exposure to <sup>14</sup>C-D<sub>5</sub> at a Target D<sub>5</sub> Concentration of 160 ppm

Sample Type	Ratio [(μg <sup>14</sup> C-D <sub>5</sub> /g or dpm/g) tissue/(μg <sup>14</sup> C-D <sub>5</sub> /g or dpm/g) plasma] by Animal Number						
	2009	2010	2011	2012	Mean	SD	n
Whole Blood	1.40	1.41	1.55	1.38	1.43	0.0808	4

**Table 87** Ratio of Tissue Radioactivity in Samples to Plasma in Male Rats at 0 Hr Following a Single, Nose-Only, Vapor Inhalation Exposure to <sup>14</sup>C-D<sub>5</sub> at a Target D<sub>5</sub> Concentration of 160 ppm

Sample Type	Ratio [(μg <sup>14</sup> C-D <sub>5</sub> /g or dpm/g) tissue/(μg <sup>14</sup> C-D <sub>5</sub> /g or dpm/g) plasma] by Animal Number						
	2013	2014	2015	2016	Mean	SD	n
Adrenal Gland	16.6	16.5	19.3	19.8	18.0	1.77	4
Intestine, Large <sup>a</sup>	22.9	37.5	43.7	55.2	39.8	13.4	4
Intestine, Small <sup>a</sup>	47.9	43.4	45.7	76.5	53.4	15.6	4
Kidney	4.23	3.78	4.65	4.78	4.36	0.450	4
Liver	10.2	8.24	9.57	10.4	9.60	0.968	4
Lung	19.8	16.3	15.8	22.0	18.5	2.94	4
Nasal Cavity	7.30	6.07	7.04	8.60	7.25	1.04	4
Pancreas	2.82	2.73	3.24	3.54	3.08	0.378	4
Perirenal Fat	1.50	1.45	2.02	1.94	1.73	0.296	4
Spleen	3.28	2.74	3.30	3.68	3.25	0.388	4
Stomach <sup>a</sup>	15.7	24.0	26.5	7.94	18.5	8.43	4
Testes	0.445	0.446	0.530	0.589	0.503	0.0701	4
Thymus	4.07	1.77	5.57	2.59	3.50	1.68	4
Thyroid	2.84	5.72	5.69	7.65	5.48	1.98	4
Whole Blood	1.34	1.28	1.35	1.46	1.36	0.0766	4

a: Includes contents.

**Table 88** Ratio of Tissue Radioactivity in Samples to Plasma in Male Rats at 1 Hr Following a Single, Nose-Only, Vapor Inhalation Exposure to <sup>14</sup>C-D<sub>5</sub> at a Target D<sub>5</sub> Concentration of 160 ppm

Sample Type	Ratio [(μg <sup>14</sup> C-D <sub>5</sub> /g or dpm/g) tissue/(μg <sup>14</sup> C-D <sub>5</sub> /g or dpm/g) plasma] by Animal Number						
	2017	2018	2019	2020	Mean	SD	n
Adrenal Gland	20.6	21.2	32.5	33.2	26.9	6.91	4
Intestine, Large <sup>a</sup>	45.1	73.5	109	45.1	68.2	30.4	4
Intestine, Small <sup>a</sup>	32.3	63.7	49.7	52.0	49.4	12.9	4
Kidney	5.66	6.28	7.38	6.77	6.52	0.727	4
Liver	9.81	11.7	12.7	11.3	11.4	1.20	4
Lung	16.0	18.0	21.8	21.3	19.3	2.77	4
Nasal Cavity	5.67	6.98	7.42	7.49	6.89	0.846	4
Pancreas	4.30	5.58	5.62	5.45	5.23	0.629	4
Perirenal Fat	3.31	3.48	3.67	3.36	3.46	0.162	4
Spleen	3.07	4.54	4.28	3.87	3.94	0.644	4
Stomach <sup>a</sup>	8.09	24.4	19.3	5.46	14.3	9.02	4
Testes	0.723	0.873	0.876	0.827	0.824	0.0714	4
Thymus	3.65	3.87	5.70	3.37	4.15	1.06	4
Thyroid	25.0	7.28	7.69	6.61	11.7	8.92	4
Whole Blood	1.29	1.48	1.50	1.44	1.43	0.0953	4

a: Includes contents.

**Table 89** Ratio of Tissue Radioactivity in Samples to Plasma in Male Rats at 3 Hr Following a Single, Nose-Only, Vapor Inhalation Exposure to <sup>14</sup>C-D<sub>5</sub> at a Target D<sub>5</sub> Concentration of 160 ppm

Sample Type	Ratio [( $\mu\text{g } ^{14}\text{C-D}_5/\text{g}$ or $\text{dpm/g}$ ) tissue]/( $\mu\text{g } ^{14}\text{C-D}_5/\text{g}$ or $\text{dpm/g}$ ) plasma] by Animal Number						
	2021	2022	2023	2024	Mean	SD	n
Adrenal Gland	25.3	22.2	26.9	26.1	25.1	2.03	4
Intestine, Large <sup>a</sup>	119	116	121	136	123	9.25	4
Intestine, Small <sup>a</sup>	18.5	29.0	23.8	28.2	24.9	4.85	4
Kidney	6.24	6.12	6.91	6.58	6.46	0.354	4
Liver	9.93	10.3	9.74	10.7	10.2	0.410	4
Lung	12.6	11.6	11.7	14.1	12.5	1.15	4
Nasal Cavity	4.48	4.10	4.53	4.70	4.45	0.253	4
Pancreas	5.94	5.50	6.14	6.15	5.93	0.305	4
Perirenal Fat	3.93	3.12	3.86	5.04	3.99	0.792	4
Spleen	2.76	2.91	2.69	2.86	2.81	0.0967	4
Stomach <sup>a</sup>	3.79	5.22	4.91	4.23	4.54	0.648	4
Testes	1.05	0.930	0.913	1.01	0.974	0.0632	4
Thymus	5.68	6.06	3.73	3.83	4.82	1.22	4
Thyroid	8.13	5.89	6.75	6.31	6.77	0.972	4
Whole Blood	1.18	1.27	1.22	1.33	1.25	0.0650	4

a: Includes contents.

**Table 90** Ratio of Tissue Radioactivity in Samples to Plasma in Male Rats at 12 Hr Following a Single, Nose-Only, Vapor Inhalation Exposure to <sup>14</sup>C-D<sub>5</sub> at a Target D<sub>5</sub> Concentration of 160 ppm

Sample Type	Ratio [( $\mu\text{g } ^{14}\text{C-D}_5/\text{g}$ or $\text{dpm/g}$ ) tissue]/[( $\mu\text{g } ^{14}\text{C-D}_5/\text{g}$ or $\text{dpm/g}$ ) plasma] by Animal Number						
	2025	2026	2027	2028	Mean	SD	n
Adrenal Gland	23.8	19.0	21.3	23.1	21.8	2.14	4
Intestine, Large <sup>a</sup>	92.8	65.0	55.6	53.4	66.7	18.1	4
Intestine, Small <sup>a</sup>	7.80	7.86	9.18	9.07	8.48	0.749	4
Kidney	6.75	6.76	6.16	6.52	6.54	0.281	4
Liver	11.3	10.2	12.3	13.3	11.8	1.33	4
Lung	20.5	20.3	18.0	22.9	20.4	1.99	4
Nasal Cavity	4.40	4.33	4.33	4.01	4.27	0.173	4
Pancreas	9.21	8.75	9.92	7.96	8.96	0.825	4
Perirenal Fat	9.34	9.92	9.24	8.88	9.35	0.429	4
Spleen	2.44	2.83	2.18	2.30	2.44	0.283	4
Stomach <sup>a</sup>	1.02	2.65	1.50	1.73	1.72	0.685	4
Testes	1.62	1.66	1.52	1.54	1.58	0.0669	4
Thymus	11.1	8.92	9.83	9.82	9.91	0.890	4
Thyroid	15.9	11.4	11.9	8.49	11.9	3.05	4
Whole Blood	1.23	1.27	1.20	1.14	1.21	0.0535	4

a: Includes contents.

**Table 91** Ratio of Tissue Radioactivity in Samples to Plasma in Male Rats at 24 Hr Following a Single, Nose-Only, Vapor Inhalation Exposure to <sup>14</sup>C-D<sub>5</sub> at a Target D<sub>5</sub> Concentration of 160 ppm

Sample Type	Ratio [(μg <sup>14</sup> C-D <sub>5</sub> /g or dpm/g) tissue/(μg <sup>14</sup> C-D <sub>5</sub> /g or dpm/g) plasma] by Animal Number						
	2029	2030	2031	2032	Mean	SD	n
Adrenal Gland	19.5	16.6	21.4	18.0	18.9	2.03	4
Intestine, Large <sup>a</sup>	37.3	44.6	35.1	52.4	42.3	7.84	4
Intestine, Small <sup>a</sup>	8.35	7.42	7.87	9.12	8.19	0.728	4
Kidney	4.75	5.12	6.37	4.82	5.26	0.754	4
Liver	16.0	15.0	15.4	15.9	15.6	0.467	4
Lung	21.0	29.9	29.1	36.3	29.1	6.25	4
Nasal Cavity	4.18	4.78	4.53	5.48	4.75	0.549	4
Pancreas	8.97	8.48	8.66	12.2	9.57	1.74	4
Perirenal Fat	10.8	13.6	12.2	16.5	13.3	2.42	4
Spleen	2.51	2.38	3.74	2.52	2.79	0.637	4
Stomach <sup>a</sup>	4.71	3.15	3.57	3.40	3.70	0.692	4
Testes	1.84	2.01	1.93	2.01	1.95	0.0786	4
Thymus	11.9	13.3	14.5	27.6	16.8	7.28	4
Thyroid	11.5	19.3	13.7	22.5	16.8	5.04	4
Whole Blood	1.07	1.12	1.13	1.02	1.09	0.0515	4

a: Includes contents.

**Table 92** Ratio of Tissue Radioactivity in Samples to Plasma in Male Rats at 48 Hr Following a Single, Nose-Only, Vapor Inhalation Exposure to <sup>14</sup>C-D<sub>5</sub> at a Target D<sub>5</sub> Concentration of 160 ppm

Sample Type	Ratio [( $\mu\text{g } ^{14}\text{C-D}_5/\text{g}$ or $\text{dpm/g}$ ) tissue]/( $\mu\text{g } ^{14}\text{C-D}_5/\text{g}$ or $\text{dpm/g}$ ) plasma] by Animal Number						
	2033	2034	2035	2036	Mean	SD	n
Adrenal Gland	20.2	25.0	26.1	33.7	26.2	5.57	4
Intestine, Large <sup>a</sup>	14.1	12.6	14.2	14.0	13.7	0.751	4
Intestine, Small <sup>a</sup>	9.35	8.73	9.53	10.6	9.56	0.780	4
Kidney	5.60	5.50	5.57	5.62	5.57	0.0560	4
Liver	20.1	23.3	20.6	25.2	22.3	2.37	4
Lung	97.3	38.2	71.5	33.6	60.1	30.0	4
Nasal Cavity	7.73	6.01	7.36	6.09	6.80	0.881	4
Pancreas	16.0	9.03	16.3	12.9	13.6	3.39	4
Perirenal Fat	32.3	30.7	34.2	32.6	32.5	1.43	4
Spleen	3.52	5.79	3.63	3.95	4.22	1.06	4
Stomach <sup>a</sup>	4.89	5.88	6.00	5.97	5.69	0.532	4
Testes	3.14	3.06	3.55	3.30	3.26	0.215	4
Thymus	21.6	20.5	34.3	18.5	23.7	7.16	4
Thyroid	27.5	12.5	31.0	17.0	22.0	8.68	4
Whole Blood	1.04	1.04	1.17	1.20	1.11	0.0871	4

a: Includes contents.

**Table 93** Ratio of Tissue Radioactivity in Samples to Plasma in Male Rats at 72 Hr Following a Single, Nose-Only, Vapor Inhalation Exposure to <sup>14</sup>C-D<sub>5</sub> at a Target D<sub>5</sub> Concentration of 160 ppm

Sample Type	Ratio [(μg <sup>14</sup> C-D <sub>5</sub> /g or dpm/g) tissue/(μg <sup>14</sup> C-D <sub>5</sub> /g or dpm/g) plasma] by Animal Number						
	2037	2038	2039	2040	Mean	SD	n
Adrenal Gland	21.1	37.2	26.6	46.2	32.8	11.2	4
Intestine, Large <sup>a</sup>	11.5	11.6	11.7	14.3	12.3	1.37	4
Intestine, Small <sup>a</sup>	11.0	9.33	10.3	12.4	10.8	1.28	4
Kidney	7.35	6.39	6.97	8.15	7.21	0.736	4
Liver	20.8	23.4	25.4	21.5	22.8	2.04	4
Lung	97.8	73.4	82.8	97.2	87.8	11.8	4
Nasal Cavity	10.0	8.47	10.1	10.7	9.81	0.937	4
Pancreas	20.2	21.7	13.8	17.4	18.3	3.51	4
Perirenal Fat	50.2	43.7	49.5	52.2	48.9	3.64	4
Spleen	4.59	4.52	5.39	5.17	4.92	0.429	4
Stomach <sup>a</sup>	4.48	2.67	9.05	3.39	4.90	2.87	4
Testes	4.13	3.86	4.08	4.77	4.21	0.389	4
Thymus	42.8	28.3	32.1	15.4	29.7	11.3	4
Thyroid	30.6	53.6	44.2	50.7	44.8	10.2	4
Whole Blood	1.27	1.24	1.26	0.974	1.19	0.142	4

a: Includes contents.

**Table 94** Ratio of Tissue Radioactivity in Samples to Plasma in Male Rats at 96 Hr Following a Single, Nose-Only, Vapor Inhalation Exposure to <sup>14</sup>C-D<sub>5</sub> at a Target D<sub>5</sub> Concentration of 160 ppm

Sample Type	Ratio [(μg <sup>14</sup> C-D <sub>5</sub> /g or dpm/g) tissue/(μg <sup>14</sup> C-D <sub>5</sub> /g or dpm/g) plasma] by Animal Number						
	2041	2042	2043	2044	Mean	SD	n
Adrenal Gland	37.8	107	41.6	65.3	62.9	31.8	4
Intestine, Large <sup>a</sup>	13.3	11.8	10.7	11.1	11.7	1.13	4
Intestine, Small <sup>a</sup>	10.9	10.7	12.3	12.1	11.5	0.796	4
Kidney	8.65	14.1	7.13	7.88	9.43	3.14	4
Liver	20.8	21.6	24.3	22.8	22.4	1.52	4
Lung	153	91.1	80.0	82.4	102	34.7	4
Nasal Cavity	13.1	10.4	10.5	9.70	10.9	1.50	4
Pancreas	16.3	33.4	27.0	21.7	24.6	7.32	4
Perirenal Fat	57.5	52.7	51.8	60.2	55.5	3.98	4
Spleen	5.75	5.90	5.08	7.76	6.12	1.15	4
Stomach <sup>a</sup>	6.17	6.13	5.78	8.90	6.74	1.45	4
Testes	5.03	5.29	4.60	4.68	4.90	0.318	4
Thymus	72.9	27.2	25.8	36.4	40.6	22.0	4
Thyroid	49.2	66.6	46.3	35.5	49.4	12.9	4
Whole Blood	1.19	1.20	0.970	1.38	1.18	0.167	4

a: Includes contents.

**Table 95** Ratio of Tissue Radioactivity in Samples to Plasma in Male Rats at 120 Hr Following a Single, Nose-Only, Vapor Inhalation Exposure to <sup>14</sup>C-D<sub>5</sub> at a Target D<sub>5</sub> Concentration of 160 ppm

Sample Type	Ratio [( $\mu\text{g } ^{14}\text{C-D}_5/\text{g}$ or $\text{dpm/g}$ ) tissue]/[( $\mu\text{g } ^{14}\text{C-D}_5/\text{g}$ or $\text{dpm/g}$ ) plasma] by Animal Number						
	2045	2046	2047	2048	Mean	SD	n
Adrenal Gland	31.5	43.5	51.4	68.3	48.7	15.4	4
Intestine, Large <sup>a</sup>	14.3	13.5	9.66	13.0	12.6	2.04	4
Intestine, Small <sup>a</sup>	13.6	14.7	12.0	11.2	12.9	1.57	4
Kidney	9.31	12.1	8.81	15.4	11.4	3.03	4
Liver	25.5	22.0	20.6	19.4	21.9	2.63	4
Lung	127	122	151	120	130	14.2	4
Nasal Cavity	11.9	12.2	15.9	11.7	13.0	1.97	4
Pancreas	18.7	27.3	20.4	27.4	23.5	4.57	4
Perirenal Fat	78.9	69.9	66.0	61.0	68.9	7.57	4
Spleen	7.15	6.81	7.26	6.53	6.94	0.331	4
Stomach <sup>a</sup>	5.85	7.28	6.25	14.5	8.47	4.07	4
Testes	5.62	6.16	5.99	5.37	5.78	0.357	4
Thymus	35.8	64.8	23.1	44.4	42.0	17.5	4
Thyroid	42.0	1680	117	45.0	470	806	4
Whole Blood	1.33	1.41	1.25	1.33	1.33	0.0676	4

a: Includes contents.

**Table 96** Ratio of Tissue Radioactivity in Samples to Plasma in Male Rats at 168 Hr Following a Single, Nose-Only, Vapor Inhalation Exposure to <sup>14</sup>C-D<sub>5</sub> at a Target D<sub>5</sub> Concentration of 160 ppm

Sample Type	Ratio [(μg <sup>14</sup> C-D <sub>5</sub> /g or dpm/g) tissue/(μg <sup>14</sup> C-D <sub>5</sub> /g or dpm/g) plasma] by Animal Number							
	2049	2050	2051	2052	2053	Mean	SD	n
Adrenal Gland	65.5	98.1	45.4	115	109	86.6	29.9	5
Carcass, Remaining	33.4	31.8	33.5	31.5	31.4	32.3	1.02	5
Intestine, Large <sup>a</sup>	13.2	10.3	12.5	19.5	16.7	14.4	3.66	5
Intestine, Small <sup>a</sup>	15.6	16.1	14.8	19.6	16.6	16.6	1.84	5
Kidney	10.7	12.4	12.5	17.8	24.6	15.6	5.69	5
Liver	27.2	27.6	28.1	19.8	25.5	25.7	3.38	5
Lung	147	174	190	186	181	176	17.0	5
Nasal Cavity	18.5	15.8	19.2	17.3	17.8	17.7	1.31	5
Pancreas	28.3	61.7	44.9	31.1	41.1	41.4	13.2	5
Perirenal Fat	97.8	97.9	108	99.5	101	101	4.39	5
Spleen	7.06	8.45	8.97	15.0	10.2	9.92	3.04	5
Stomach <sup>a</sup>	4.91	4.71	8.37	14.9	5.76	7.72	4.25	5
Testes	7.65	6.64	8.08	7.74	7.81	7.58	0.553	5
Thymus	80.5	36.0	103	65.5	81.5	73.4	24.9	5
Thyroid	57.6	94.5	101	66.0	99.1	83.6	20.2	5
Whole Blood	1.49	1.94	1.86	1.69	1.36	1.67	0.244	5

a: Includes contents.

**Table 97** Ratio of Tissue Radioactivity in Samples to Plasma in Female Rats at 3.0 Hr Following the Start of a Single, Nose-Only, Vapor Inhalation Exposure to <sup>14</sup>C-D<sub>5</sub> at a Target D<sub>5</sub> Concentration of 160 ppm

Sample Type	Ratio [(μg <sup>14</sup> C-D <sub>5</sub> /g or dpm/g) tissue/(μg <sup>14</sup> C-D <sub>5</sub> /g or dpm/g) plasma] by Animal Number						
	2509	2510	2511	2512	Mean	SD	n
Whole Blood	1.38	1.29	1.44	1.38	1.37	0.0611	4

**Table 98** Ratio of Tissue Radioactivity in Samples to Plasma in Female Rats at 0 Hr Following a Single, Nose-Only, Vapor Inhalation Exposure to <sup>14</sup>C-D<sub>5</sub> at a Target D<sub>5</sub> Concentration of 160 ppm

Sample Type	Ratio [(μg <sup>14</sup> C-D <sub>5</sub> /g or dpm/g) tissue/(μg <sup>14</sup> C-D <sub>5</sub> /g or dpm/g) plasma] by Animal Number						
	2513	2514	2515	2516	Mean	SD	n
Adrenal Gland	28.2	21.2	41.6	31.6	30.7	8.50	4
Intestine, Large <sup>a</sup>	33.6	44.5	80.6	33.6	48.1	22.3	4
Intestine, Small <sup>a</sup>	33.8	34.9	50.8	29.2	37.2	9.38	4
Kidney	4.97	4.91	5.93	4.78	5.15	0.528	4
Liver	12.6	11.7	17.3	14.1	13.9	2.47	4
Lung	18.5	20.9	24.4	25.4	22.3	3.17	4
Nasal Cavity	7.32	9.71	10.0	10.1	9.30	1.33	4
Ovaries	6.15	4.57	7.46	6.14	6.08	1.18	4
Pancreas	3.56	3.67	4.25	3.73	3.80	0.304	4
Perirenal Fat	2.96	2.25	2.81	4.61	3.16	1.02	4
Spleen	3.38	2.98	4.14	3.64	3.54	0.490	4
Stomach <sup>a</sup>	12.4	18.1	15.2	14.5	15.0	2.33	4
Thymus	4.51	2.74	2.08	3.48	3.20	1.04	4
Thyroid	-- <sup>b</sup>	11.8	8.74	6.71	9.09	2.57	3
Uterus	1.74	2.12	1.83	1.86	1.89	0.165	4
Vagina	1.72	1.38	1.52	2.24	1.71	0.374	4
Whole Blood	1.31	1.33	1.50	1.35	1.37	0.0882	4

a: Includes contents.  
 b: Ratio could not be calculated because total sample weight at collection (tissue plus solubilizer and container) was less than tare weight (solubilizer plus container).

**Table 99** Ratio of Tissue Radioactivity in Samples to Plasma in Female Rats at 1 Hr Following a Single, Nose-Only, Vapor Inhalation Exposure to <sup>14</sup>C-D<sub>5</sub> at a Target D<sub>5</sub> Concentration of 160 ppm

Sample Type	Ratio [( $\mu\text{g } ^{14}\text{C-D}_5/\text{g}$ or $\text{dpm/g}$ ) tissue]/[( $\mu\text{g } ^{14}\text{C-D}_5/\text{g}$ or $\text{dpm/g}$ ) plasma] by Animal Number						
	2517	2518	2519	2520	Mean	SD	n
Adrenal Gland	34.2	29.1	42.3	32.0	34.4	5.64	4
Intestine, Large <sup>a</sup>	39.1	76.7	27.7	141	71.1	51.1	4
Intestine, Small <sup>a</sup>	48.9	29.8	123	36.0	59.4	43.1	4
Kidney	6.44	6.79	8.20	6.48	6.98	0.830	4
Liver	13.7	13.4	12.9	16.7	14.2	1.71	4
Lung	18.3	12.4	21.1	11.7	15.9	4.60	4
Nasal Cavity	7.59	6.14	9.81	6.58	7.53	1.64	4
Ovaries	6.52	7.65	8.30	7.84	7.58	0.757	4
Pancreas	5.18	4.96	7.43	5.57	5.79	1.12	4
Perirenal Fat	5.02	2.76	7.86	3.79	4.86	2.20	4
Spleen	3.32	3.15	3.08	3.53	3.27	0.203	4
Stomach <sup>a</sup>	13.8	9.25	6.49	10.2	9.93	3.01	4
Thymus	5.04	4.16	4.07	2.51	3.94	1.05	4
Thyroid	-- <sup>b</sup>	7.03	8.61	11.6	9.08	2.32	3
Uterus	2.37	2.05	2.61	1.78	2.20	0.364	4
Vagina	2.28	1.57	3.00	1.42	2.07	0.727	4
Whole Blood	1.13	1.29	1.33	1.38	1.28	0.106	4

a: Includes contents.  
 b: Ratio could not be calculated because total sample weight at collection (tissue plus solubilizer and container) was less than tare weight (solubilizer plus container).

**Table 100** Ratio of Tissue Radioactivity in Samples to Plasma in Female Rats at 3 Hr Following a Single, Nose-Only, Vapor Inhalation Exposure to <sup>14</sup>C-D<sub>5</sub> at a Target D<sub>5</sub> Concentration of 160 ppm

Sample Type	Ratio [(μg <sup>14</sup> C-D <sub>5</sub> /g or dpm/g) tissue/(μg <sup>14</sup> C-D <sub>5</sub> /g or dpm/g) plasma] by Animal Number						
	2521	2522	2523	2524	Mean	SD	n
Adrenal Gland	35.4	38.5	45.9	48.1	42.0	6.04	4
Intestine, Large <sup>a</sup>	154	143	149	103	137	23.3	4
Intestine, Small <sup>a</sup>	17.5	18.1	21.2	18.2	18.7	1.66	4
Kidney	7.98	8.92	8.11	7.15	8.04	0.725	4
Liver	13.5	11.9	16.4	10.9	13.2	2.39	4
Lung	15.0	13.7	12.1	14.9	13.9	1.34	4
Nasal Cavity	5.61	6.06	5.91	5.91	5.87	0.189	4
Ovaries	9.25	16.2	6.80	6.58	9.70	4.47	4
Pancreas	6.84	8.23	8.26	7.67	7.75	0.666	4
Perirenal Fat	4.93	6.03	7.78	5.78	6.13	1.19	4
Spleen	2.69	3.38	2.75	2.65	2.87	0.343	4
Stomach <sup>a</sup>	6.82	7.32	7.34	-- <sup>b</sup>	7.16	0.292	3
Thymus	6.10	8.82	5.56	2.92	5.85	2.42	4
Thyroid	11.5	12.6	8.68	14.2	11.8	2.33	4
Uterus	2.62	2.45	3.34	2.72	2.78	0.386	4
Vagina	4.68	2.91	2.31	2.10	3.00	1.17	4
Whole Blood	1.31	1.26	1.28	1.30	1.29	0.0245	4

a: Includes contents.

b: Ratio could not be calculated because total sample weight at collection (tissue plus solubilizer and container) was less than tare weight (solubilizer plus container).

**Table 101** Ratio of Tissue Radioactivity in Samples to Plasma in Female Rats at 12 Hr Following a Single, Nose-Only, Vapor Inhalation Exposure to <sup>14</sup>C-D<sub>5</sub> at a Target D<sub>5</sub> Concentration of 160 ppm

Sample Type	Ratio [( $\mu\text{g } ^{14}\text{C-D}_5/\text{g}$ or $\text{dpm/g}$ ) tissue]/( $\mu\text{g } ^{14}\text{C-D}_5/\text{g}$ or $\text{dpm/g}$ ) plasma] by Animal Number						
	2525	2526	2527	2528	Mean	SD	n
Adrenal Gland	38.3	55.8	36.6	50.9	45.4	9.46	4
Intestine, Large <sup>a</sup>	77.8	49.9	38.1	74.8	60.1	19.3	4
Intestine, Small <sup>a</sup>	11.0	10.6	11.4	10.9	11.0	0.344	4
Kidney	8.75	8.28	10.2	8.30	8.88	0.894	4
Liver	15.6	16.4	17.7	19.1	17.2	1.56	4
Lung	17.3	24.1	18.2	19.8	19.9	3.02	4
Nasal Cavity	4.71	5.14	4.47	5.72	5.01	0.547	4
Ovaries	15.6	21.9	14.2	17.8	17.4	3.35	4
Pancreas	8.55	11.9	9.96	12.1	10.6	1.69	4
Perirenal Fat	16.9	13.2	15.7	20.9	16.7	3.21	4
Spleen	2.09	13.1	2.65	2.73	5.15	5.33	4
Stomach <sup>a</sup>	2.98	3.00	12.1	2.99	5.26	4.53	4
Thymus	8.18	6.97	8.23	18.0	10.3	5.14	4
Thyroid	15.5	55.7	18.7	32.0	30.5	18.3	4
Uterus	4.83	4.23	4.69	4.36	4.53	0.277	4
Vagina	3.20	3.43	7.11	5.71	4.86	1.88	4
Whole Blood	1.10	1.16	1.19	1.04	1.12	0.0654	4

a: Includes contents.

**Table 102** Ratio of Tissue Radioactivity in Samples to Plasma in Female Rats at 24 Hr Following a Single, Nose-Only, Vapor Inhalation Exposure to <sup>14</sup>C-D<sub>5</sub> at a Target D<sub>5</sub> Concentration of 160 ppm

Sample Type	Ratio [(μg <sup>14</sup> C-D <sub>5</sub> /g or dpm/g) tissue/(μg <sup>14</sup> C-D <sub>5</sub> /g or dpm/g) plasma] by Animal Number						
	2529	2530	2531	2532	Mean	SD	n
Adrenal Gland	38.4	41.1	40.7	27.8	37.0	6.22	4
Intestine, Large <sup>a</sup>	31.9	34.3	41.6	52.9	40.2	9.44	4
Intestine, Small <sup>a</sup>	12.1	10.9	9.93	10.3	10.8	0.936	4
Kidney	7.44	6.63	8.23	6.24	7.13	0.883	4
Liver	21.5	21.5	19.6	18.1	20.2	1.62	4
Lung	45.7	25.8	22.2	25.7	29.9	10.7	4
Nasal Cavity	7.26	5.80	6.41	5.91	6.35	0.666	4
Ovaries	17.8	17.9	16.8	15.3	17.0	1.18	4
Pancreas	14.7	13.0	13.1	12.8	13.4	0.841	4
Perirenal Fat	27.7	20.2	19.1	24.4	22.8	3.93	4
Spleen	2.86	2.90	3.13	2.77	2.92	0.156	4
Stomach <sup>a</sup>	6.04	78.6	5.34	6.13	24.0	36.4	4
Thymus	11.0	14.3	14.0	15.5	13.7	1.92	4
Thyroid	27.8	26.3	13.4	28.7	24.0	7.16	4
Uterus	7.21	6.49	3.42	5.86	5.75	1.65	4
Vagina	5.85	5.72	7.81	5.74	6.28	1.02	4
Whole Blood	1.02	1.14	1.03	1.13	1.08	0.0642	4

a: Includes contents.

**Table 103** Ratio of Tissue Radioactivity in Samples to Plasma in Female Rats at 48 Hr Following a Single, Nose-Only, Vapor Inhalation Exposure to <sup>14</sup>C-D<sub>5</sub> at a Target D<sub>5</sub> Concentration of 160 ppm

Sample Type	Ratio [( $\mu\text{g } ^{14}\text{C-D}_5/\text{g}$ or $\text{dpm/g}$ ) tissue/( $\mu\text{g } ^{14}\text{C-D}_5/\text{g}$ or $\text{dpm/g}$ ) plasma] by Animal Number						
	2533	2534	2535	2536	Mean	SD	n
Adrenal Gland	52.3	70.9	46.5	52.6	55.6	10.6	4
Intestine, Large <sup>a</sup>	19.2	22.2	15.8	25.7	20.7	4.24	4
Intestine, Small <sup>a</sup>	11.4	14.3	9.56	16.3	12.9	2.99	4
Kidney	7.09	11.1	6.63	11.3	9.02	2.50	4
Liver	28.8	37.4	27.4	28.7	30.6	4.59	4
Lung	45.5	38.7	52.4	107	61.0	31.4	4
Nasal Cavity	8.31	9.74	8.99	14.9	10.5	2.98	4
Ovaries	27.1	32.8	20.6	33.5	28.5	5.97	4
Pancreas	24.5	24.8	16.0	27.4	23.2	4.95	4
Perirenal Fat	34.3	48.1	38.7	54.3	43.8	9.05	4
Spleen	4.01	4.96	3.15	4.36	4.12	0.756	4
Stomach <sup>a</sup>	5.09	7.06	3.15	12.1	6.85	3.84	4
Thymus	30.8	20.7	11.0	23.4	21.5	8.20	4
Thyroid	57.7	35.0	36.8	83.5	53.3	22.6	4
Uterus	6.09	17.2	5.88	19.0	12.0	7.02	4
Vagina	19.2	8.28	6.38	9.93	10.9	5.69	4
Whole Blood	1.10	1.34	1.22	1.18	1.21	0.102	4

a: Includes contents.

**Table 104** Ratio of Tissue Radioactivity in Samples to Plasma in Female Rats at 72 Hr Following a Single, Nose-Only, Vapor Inhalation Exposure to <sup>14</sup>C-D<sub>5</sub> at a Target D<sub>5</sub> Concentration of 160 ppm

Sample Type	Ratio [( $\mu\text{g } ^{14}\text{C-D}_5/\text{g}$ or $\text{dpm/g}$ ) tissue]/( $\mu\text{g } ^{14}\text{C-D}_5/\text{g}$ or $\text{dpm/g}$ ) plasma] by Animal Number						
	2537	2538	2539	2540	Mean	SD	n
Adrenal Gland	18.8	124	119	39.4	75.4	54.2	4
Intestine, Large <sup>a</sup>	7.49	40.5	17.1	16.9	20.5	14.1	4
Intestine, Small <sup>a</sup>	4.49	42.8	15.0	13.7	19.0	16.5	4
Kidney	3.68	23.3	29.2	9.24	16.3	11.9	4
Liver	13.9	113	29.9	34.5	47.9	44.5	4
Lung	33.3	150	98.7	59.2	85.4	50.9	4
Nasal Cavity	4.34	24.7	12.8	9.13	12.7	8.68	4
Ovaries	9.83	103	40.8	26.1	44.9	40.6	4
Pancreas	5.76	52.4	33.2	13.4	26.2	20.9	4
Perirenal Fat	25.7	151	56.7	53.3	71.6	54.5	4
Spleen	1.83	14.1	10.5	4.29	7.69	5.64	4
Stomach <sup>a</sup>	2.87	21.7	23.9	25.6	18.5	10.5	4
Thymus	20.8	26.7	37.1	34.0	29.7	7.37	4
Thyroid	9.13	87.7	63.2	114	68.4	44.6	4
Uterus	4.01	24.4	26.4	7.03	15.5	11.6	4
Vagina	3.66	27.1	62.5	4.76	24.5	27.5	4
Whole Blood	0.505	3.92	1.32	1.40	1.79	1.48	4

a: Includes contents.

**Table 105** Ratio of Tissue Radioactivity in Samples to Plasma in Female Rats at 96 Hr Following a Single, Nose-Only, Vapor Inhalation Exposure to <sup>14</sup>C-D<sub>5</sub> at a Target D<sub>5</sub> Concentration of 160 ppm

Sample Type	Ratio [(μg <sup>14</sup> C-D <sub>5</sub> /g or dpm/g) tissue/(μg <sup>14</sup> C-D <sub>5</sub> /g or dpm/g) plasma] by Animal Number						
	2541	2542	2543	2544	Mean	SD	n
Adrenal Gland	65.5	42.2	74.7	80.5	65.7	16.9	4
Intestine, Large <sup>a</sup>	13.4	15.1	19.4	17.9	16.5	2.70	4
Intestine, Small <sup>a</sup>	14.1	11.3	18.5	18.4	15.6	3.51	4
Kidney	13.6	11.7	20.3	15.2	15.2	3.69	4
Liver	34.3	39.3	42.6	40.0	39.1	3.49	4
Lung	111	68.6	95.7	141	104	30.4	4
Nasal Cavity	14.9	11.3	13.1	15.3	13.7	1.83	4
Ovaries	42.5	33.0	60.1	43.1	44.6	11.3	4
Pancreas	16.8	23.6	16.5	26.2	20.8	4.87	4
Perirenal Fat	94.2	84.6	66.9	99.5	86.3	14.3	4
Spleen	4.67	5.41	20.0	6.87	9.22	7.21	4
Stomach <sup>a</sup>	5.64	8.00	17.5	10.6	10.4	5.14	4
Thymus	13.1	63.4	54.0	50.0	45.1	22.0	4
Thyroid	81.0	113	84.7	112	97.8	17.3	4
Uterus	7.83	8.53	9.90	9.73	9.00	0.989	4
Vagina	6.07	4.94	14.9	8.95	8.72	4.46	4
Whole Blood	1.23	1.49	1.55	1.55	1.45	0.151	4

a: Includes contents.

**Table 106** Ratio of Tissue Radioactivity in Samples to Plasma in Female Rats at 120 Hr Following a Single, Nose-Only, Vapor Inhalation Exposure to <sup>14</sup>C-D<sub>5</sub> at a Target D<sub>5</sub> Concentration of 160 ppm

Sample Type	Ratio [(μg <sup>14</sup> C-D <sub>5</sub> /g or dpm/g) tissue/(μg <sup>14</sup> C-D <sub>5</sub> /g or dpm/g) plasma] by Animal Number						
	2545	2546	2547	2548	Mean	SD	n
Adrenal Gland	72.4	137	126	62.5	99.5	37.6	4
Intestine, Large <sup>a</sup>	14.8	17.8	16.6	12.5	15.4	2.28	4
Intestine, Small <sup>a</sup>	23.1	20.3	14.5	17.1	18.8	3.75	4
Kidney	14.1	25.1	13.8	12.2	16.3	5.93	4
Liver	62.0	41.1	36.9	39.5	44.9	11.6	4
Lung	70.1	99.6	119	97.6	96.5	20.0	4
Nasal Cavity	14.7	14.5	14.1	14.2	14.4	0.303	4
Ovaries	49.2	75.9	36.5	39.9	50.4	17.9	4
Pancreas	38.1	16.7	28.1	30.9	28.5	8.91	4
Perirenal Fat	139	103	122	89.6	113	21.7	4
Spleen	8.19	12.3	6.87	5.92	8.32	2.82	4
Stomach <sup>a</sup>	12.2	6.81	15.3	11.1	11.3	3.51	4
Thymus	102	19.4	70.5	29.2	55.1	38.0	4
Thyroid	790	55.2	168	-- <sup>b</sup>	338	395	3
Uterus	17.3	19.3	39.0	17.9	23.4	10.5	4
Vagina	5.12	30.1	12.2	8.77	14.0	11.1	4
Whole Blood	2.01	1.66	1.30	1.76	1.68	0.293	4

a: Includes contents.  
 b: Ratio could not be calculated because total sample weight at collection (tissue plus solubilizer and container) was less than tare weight (solubilizer plus container).

<b>Table 107</b> Ratio of Tissue Radioactivity in Samples to Plasma in Female Rats at 168 Hr Following a Single, Nose-Only, Vapor Inhalation Exposure to <sup>14</sup> C-D <sub>5</sub> at a Target D <sub>5</sub> Concentration of 160 ppm								
Sample Type	Ratio [(μg <sup>14</sup> C-D <sub>5</sub> /g or dpm/g) tissue/(μg <sup>14</sup> C-D <sub>5</sub> /g or dpm/g) plasma] by Animal Number							
	2549	2550	2551	2552	2553	Mean	SD	n
Adrenal Gland	184	98.7	105	190	137	143	42.7	5
Carcass, Remaining	45.5	48.9	49.9	47.4	49.0	48.1	1.73	5
Intestine, Large <sup>a</sup>	13.1	14.1	19.2	20.5	19.0	17.2	3.35	5
Intestine, Small <sup>a</sup>	22.4	17.6	22.4	23.6	24.0	22.0	2.57	5
Kidney	17.7	14.8	20.3	27.1	19.8	19.9	4.56	5
Liver	45.8	40.6	46.2	40.4	59.1	46.4	7.60	5
Lung	137	163	298	216	234	210	63.0	5
Nasal Cavity	20.3	19.0	29.6	24.5	26.3	23.9	4.36	5
Ovaries	94.9	47.3	58.5	59.7	63.0	64.7	17.9	5
Pancreas	49.9	67.1	34.0	28.7	65.0	48.9	17.5	5
Perirenal Fat	116	124	215	148	158	152	39.0	5
Spleen	6.69	6.75	9.08	18.2	6.32	9.41	5.04	5
Stomach <sup>a</sup>	7.56	5.94	19.3	19.5	12.7	13.0	6.35	5
Thymus	36.6	86.1	56.0	82.7	110	74.3	28.5	5
Thyroid	-- <sup>b</sup>	133	214	164	380	223	110	4
Uterus	11.9	17.2	24.6	28.2	12.6	18.9	7.27	5
Vagina	13.7	12.9	2.04	11.8	44.4	17.0	16.0	5
Whole Blood	2.19	1.15	2.07	2.43	1.80	1.93	0.489	5

a: Includes contents.  
 b: Ratio could not be calculated because total sample weight at collection (tissue plus solubilizer and container) was less than tare weight (solubilizer plus container).

**Table 108** Tissue Radioactivity  $C_{max}$ ,  $T_{max}$ , AUC(tf) and  $t_{1/2}$  in Male Rats Following a Single, Nose-Only, Vapor Inhalation Exposure to  $^{14}\text{C-D}_5$  at a Target Concentration of 7 ppm

Sample Type	$C_{max}$ ( $\mu\text{g } ^{14}\text{C-D}_5/\text{g}$ )	$T_{max}$ (hr Post-exposure)	AUC(tf) <sup>a</sup> ( $\mu\text{g } ^{14}\text{C-D}_5 \cdot \text{hr}/\text{g}$ )	$t_{1/2}$ (hr)
Adrenal Gland	1.15	0	49.2	– <sup>b</sup>
Intestine, Large <sup>c</sup>	5.57	3	88.5	282
Intestine, Small <sup>c</sup>	4.31	0	33.5	146
Kidney	0.553	0	14.8	295
Liver	0.918	0	30.7	147
Lung	2.05	0	83.7	143
Nasal Cavity	0.900	0	22.6	148
Pancreas	0.449	0	22.6	241
Perirenal Fat	0.343	168	37.8	– <sup>b</sup>
Plasma	0.158	0	3.05	123
Spleen	0.312	0	9.41	172
Stomach <sup>c</sup>	3.10	1	17.6	148
Testes	0.102	0	4.86	198
Thymus	0.541	0	38.3	637
Thyroid	2.91	0	39.8	113
Whole Blood	0.183	0	3.57	177

a: Time to final measurable concentration (tf) = 168 hours post-exposure.

b: Data does not show a linear apparent terminal phase.

c: Includes contents.

**Table 109** Tissue Radioactivity  $C_{max}$ ,  $T_{max}$ , AUC(tf) and  $t_{1/2}$  in Female Rats Following a Single, Nose-Only, Vapor Inhalation Exposure to  $^{14}\text{C-D}_5$  at a Target Concentration of 7 ppm

Sample Type	$C_{max}$ ( $\mu\text{g } ^{14}\text{C-D}_5/\text{g}$ )	$T_{max}$ (hr Post-exposure)	AUC(tf) <sup>a</sup> ( $\mu\text{g } ^{14}\text{C-D}_5 \cdot \text{hr/g}$ )	$t_{1/2}$ (hr)
Adrenal Gland	1.01	0	48.5	114
Intestine, Large <sup>b</sup>	2.26	1	45.9	64.6
Intestine, Small <sup>b</sup>	1.80	0	19.8	78.2
Kidney	0.283	0	11.8	67.2
Liver	0.637	0	28.9	78.8
Lung	1.05	0	45.9	80.8
Nasal Cavity	0.510	0	15.6	101
Ovaries	0.304	12	29.5	106
Pancreas	0.282	0	16.4	80.9
Perirenal Fat	0.235	24	30.5	495
Plasma	0.0713	0	1.49	50.5
Spleen	0.179	0	6.55	70.7
Stomach <sup>b</sup>	1.38	0	17.8	155
Thymus	0.281	24	27.1	83.8
Thyroid	0.595	0	45.7	198
Uterus	0.0990	0	8.22	-- <sup>c</sup>
Vagina	0.112	0	7.52	-- <sup>c</sup>
Whole Blood	0.0833	0	1.87	251

a: Time to final measurable concentration (tf) = 168 hours post-exposure.  
 b: includes contents.  
 c: Data does not show a linear apparent terminal phase.

**Table 110** Tissue Radioactivity  $C_{max}$ ,  $T_{max}$ , AUC(tf) and  $t_{1/2}$  in Male Rats Following a Single, Nose-Only, Vapor Inhalation Exposure to  $^{14}\text{C-D}_5$  at a Target Concentration of 160 ppm

Sample Type	$C_{max}$ ( $\mu\text{g } ^{14}\text{C-D}_5/\text{g}$ )	$T_{max}$ (hr Post-exposure)	AUC(tf) <sup>a</sup> ( $\mu\text{g } ^{14}\text{C-D}_5 \cdot \text{hr/g}$ )	$t_{1/2}$ (hr)
Adrenal Gland	59.9	0	1470	136
Intestine, Large <sup>b</sup>	253	3	3070	98.5
Intestine, Small <sup>b</sup>	176	0	1320	135
Kidney	14.5	0	349	217
Liver	31.8	0	775	85.2
Lung	61.2	0	2030	375
Nasal Cavity	24.0	0	358	231
Pancreas	12.2	3	537	252
Perirenal Fat	8.16	3	946	371
Plasma	3.33	0	54.9	68.5
Spleen	10.8	0	197	195
Stomach <sup>b</sup>	62.6	0	441	75.2
Testes	2.01	3	107	173
Thymus	11.5	0	769	5550
Thyroid	33.3	120	2020	78.5
Whole Blood	4.50	0	68.9	126

a: Time to final measurable concentration (tf) = 168 hours post-exposure.  
 b: Includes contents.

**Table 111 Tissue Radioactivity  $C_{max}$ ,  $T_{max}$ , AUC(tf) and  $t_{1/2}$  in Female Rats Following a Single, Nose-Only, Vapor Inhalation Exposure to  $^{14}\text{C-D}_5$  at a Target Concentration of 160 ppm**

Sample Type	$C_{max}$ ( $\mu\text{g } ^{14}\text{C-D}_5/\text{g}$ )	$T_{max}$ (hr Post-exposure)	AUC(tf) <sup>a</sup> ( $\mu\text{g } ^{14}\text{C-D}_5 \cdot \text{hr/g}$ )	$t_{1/2}$ (hr)
Adrenal Gland	70.7	0	1650	360
Intestine, Large <sup>b</sup>	114	3	1830	51.9
Intestine, Small <sup>b</sup>	82.1	0	723	79.7
Kidney	11.5	0	301	69.7
Liver	31.5	0	766	59.3
Lung	49.8	0	1330	216
Nasal Cavity	20.4	0	291	126
Ovaries	14.0	0	673	95.3
Pancreas	8.46	0	440	486
Perirenal Fat	8.08	12	1020	111
Plasma	2.23	0	35.7	52.0
Spleen	8.02	0	155	49.9
Stomach <sup>b</sup>	32.1	0	389	57.2
Thymus	7.49	0	563	79.2
Thyroid	22.6	120	1760	76.8
Uterus	4.11	0	218	121
Vagina	3.97	0	219	99.7
Whole Blood	3.05	0	46.6	71.6

a: Time to final measurable concentration (tf) = 168 hours post-exposure.  
 b: Includes contents.

**Table 112** Radioactivity in Expired Volatile Samples from Male Rats Following a Single, Nose-Only, Vapor Inhalation Exposure to <sup>14</sup>C-D<sub>5</sub> at a Target D<sub>5</sub> Concentration of 7 ppm

Collection Interval (Hr Post-exposure)	Radioactivity (µg equiv <sup>14</sup> C-D <sub>5</sub> /mL) <sup>a</sup> by Animal Number							
	1049	1050	1051	1052	1053	Mean	%RSD	n
0-1	0.916	0.742	0.479	0.939	0.613	0.738	27	5
1-2	0.114	0.136	0.0797	0.110	0.114	0.111	18	5
2-4	0.0978	0.0946	0.0822	0.112	0.0969	0.0967	11	5
4-6	0.0413	0.0463	0.0283	0.0478	0.0358	0.0399	20	5
6-9	0.0326	0.0354	0.0207	0.0292	0.0309	0.0298	19	5
9-12	0.0158	0.0121	0.0114	0.0149	0.0142	0.0136	14	5
12-24	0.0336	0.0239	0.0157	0.0255	0.0272	0.0252	26	5
24-48	0.0187	0.0237	0.00751	0.0246	0.0160	0.0181	38	5
48-72	0.0144	0.0110	0.00482	0.0228	0.0162	0.0139	48	5
72-96	-- <sup>b</sup>	-- <sup>b</sup>	-- <sup>b</sup>	-- <sup>b</sup>	-- <sup>b</sup>	-- <sup>b</sup>	-- <sup>b</sup>	-- <sup>b</sup>
96-120	-- <sup>b</sup>	-- <sup>b</sup>	-- <sup>b</sup>	-- <sup>b</sup>	-- <sup>b</sup>	-- <sup>b</sup>	-- <sup>b</sup>	-- <sup>b</sup>
120-144	-- <sup>b</sup>	-- <sup>b</sup>	-- <sup>b</sup>	-- <sup>b</sup>	-- <sup>b</sup>	-- <sup>b</sup>	-- <sup>b</sup>	-- <sup>b</sup>
144-168	-- <sup>b</sup>	-- <sup>b</sup>	-- <sup>b</sup>	-- <sup>b</sup>	-- <sup>b</sup>	-- <sup>b</sup>	-- <sup>b</sup>	-- <sup>b</sup>

a: 10 mL toluene used to extract charcoal tube samples.  
 b: Samples not collected per client approved protocol deviation.

**Table 113** Radioactivity in Expired Volatile Samples from Female Rats Following a Single, Nose-Only, Vapor Inhalation Exposure to <sup>14</sup>C-D<sub>5</sub> at a Target D<sub>5</sub> Concentration of 7 ppm

Collection Interval (Hr Post-exposure)	Radioactivity (µg equiv <sup>14</sup> C-D <sub>5</sub> /mL) <sup>a</sup> by Animal Number							
	1549	1550	1551	1552	1553	Mean	%RSD	n
0-1	0.141	0.137	0.137	0.0237	0.0192	0.0916	70	5
1-2	0.0342	0.0285	0.0251	0.00595	0.00686	0.0201	64	5
2-4	0.0247	0.0216	0.0198	0.00668	0.00612	0.0158	55	5
4-6	0.0108	0.0101	0.0125	0.00301	0.00345	0.00799	55	5
6-9	0.00922	0.00865	0.00902	0.00303	0.00252	0.00649	52	5
9-12	0.00524	0.00349	0.00696	0.00171	0.00142	0.00376	63	5
12-24	0.0107	0.00649	0.00834	0.00421	0.00363	0.00668	44	5
24-48	0.0134	0.00556	0.00696	0.00462	0.00348	0.00681	58	5
48-72	0.00736	0.000788	0.00350	0.00221	0.00230	0.00323	77	5
72-96	-- <sup>b</sup>	-- <sup>b</sup>	-- <sup>b</sup>	-- <sup>b</sup>	-- <sup>b</sup>	-- <sup>b</sup>	-- <sup>b</sup>	-- <sup>b</sup>
96-120	-- <sup>b</sup>	-- <sup>b</sup>	-- <sup>b</sup>	-- <sup>b</sup>	-- <sup>b</sup>	-- <sup>b</sup>	-- <sup>b</sup>	-- <sup>b</sup>
120-144	-- <sup>b</sup>	-- <sup>b</sup>	-- <sup>b</sup>	-- <sup>b</sup>	-- <sup>b</sup>	-- <sup>b</sup>	-- <sup>b</sup>	-- <sup>b</sup>
144-168	-- <sup>b</sup>	-- <sup>b</sup>	-- <sup>b</sup>	-- <sup>b</sup>	-- <sup>b</sup>	-- <sup>b</sup>	-- <sup>b</sup>	-- <sup>b</sup>

a: 10 mL toluene used to extract charcoal tube samples.  
 b: Samples not collected per client approved protocol deviation.

**Table 114** Radioactivity in Expired Volatile Samples from Male Rats Following a Single, Nose-Only, Vapor Inhalation Exposure to <sup>14</sup>C-D<sub>5</sub> at a Target D<sub>5</sub> Concentration of 160 ppm

Collection Interval (Hr Post-exposure)	Radioactivity (µg equiv <sup>14</sup> C-D <sub>5</sub> /mL) <sup>a</sup> by Animal Number							
	2049	2050	2051	2052	2053	Mean	%RSD	n
0-1	29.4	17.5	18.1	23.6	25.2	22.8	22	5
1-2	1.80	2.55	2.48	1.95	2.05	2.16	15	5
2-4	2.39	2.22	2.45	2.53	2.51	2.42	5	5
4-6	0.948	1.16	1.01	1.01	1.14	1.06	9	5
6-9	0.698	0.883	1.01	0.797	1.20	0.919	21	5
9-12	0.576	0.332	0.628	0.480	0.732	0.550	28	5
12-24	1.30	1.22	1.22	1.44	1.47	1.33	9	5
24-48	1.08	1.07	0.843	0.643	0.889	0.906	20	5
48-72	0.437	0.519	0.295	0.356	0.397	0.401	21	5
72-96	0.168	0.271	0.109	0.146	0.277	0.194	39	5
96-120	0.142	0.159	0.115	0.0931	0.118	0.125	20	5
120-144	0.110	0.106	0.0802	0.0851	0.128	0.102	19	5
144-168	0.0425	0.0803	0.0443	0.0582	0.0557	0.0562	27	5

a: 10 mL toluene used to extract charcoal tube samples.

<b>Table 115</b> Radioactivity in Expired Volatile Samples from Female Rats Following a Single, Nose-Only, Vapor Inhalation Exposure to <sup>14</sup> C-D <sub>5</sub> at a Target D <sub>5</sub> Concentration of 160 ppm								
Collection Interval (Hr Post-exposure)	Radioactivity (µg equiv <sup>14</sup> C-D <sub>5</sub> /mL) <sup>a</sup> by Animal Number							
	2549	2550	2551	2552	2553	Mean	%RSD	n
0-1	4.05	1.70	2.30	1.87	0.635	2.11	59	5
1-2	0.495	0.366	0.453	0.477	0.195	0.397	31	5
2-4	0.958	0.444	0.371	0.436	0.228	0.487	57	5
4-6	0.403	0.129	0.182	0.244	0.0614	0.204	64	5
6-9	0.325	0.169	0.175	0.246	0.0813	0.199	46	5
9-12	0.204	0.116	0.0348	0.135	0.0755	0.113	57	5
12-24	0.615	0.242	0.294	0.274	0.155	0.316	56	5
24-48	0.740	0.163	0.298	0.201	0.140	0.308	81	5
48-72	0.415	0.119	0.167	0.189	0.0678	0.192	70	5
72-96	0.218	0.0506	0.0963	0.115	0.0435	0.105	67	5
96-120	0.151	0.0436	0.0738	0.0607	0.0401	0.0738	61	5
120-144	0.0923	0.0231	0.0479	0.0575	0.0239	0.0489	58	5
144-168	0.0519	0.0230	0.0474	0.0346	0.0187	0.0351	41	5

a: 10 mL toluene used to extract charcoal tube samples.

<b>Table 116</b> Radioactivity in Expired <sup>14</sup> CO <sub>2</sub> Samples from Male Rats Following a Single, Nose-Only, Vapor Inhalation Exposure to <sup>14</sup> C-D <sub>5</sub> at a Target D <sub>5</sub> Concentration of 7 ppm								
Collection Interval (Hr Post-exposure)	Radioactivity (µg <sup>14</sup> C-D <sub>5</sub> /g) <sup>a</sup> by Animal Number							
	1049	1050	1051	1052	1053	Mean	%RSD	n
0-6	0.0257	0.0241	0.0220	0.0232	0.0231	0.0236	6	5
6-12	0.00856	0.00765	0.00787	0.00668	0.00709	0.00757	10	5
12-24	0.0153	0.00950	0.00770	0.00682	0.0132	0.0105	35	5
24-48	0.00858	0.00644	0.00566	0.00646	0.00859	0.00715	19	5
48-72	0.00596	0.00356	0.00386	0.00379	0.00510	0.00445	23	5
72-96	-- <sup>b</sup>	-- <sup>b</sup>	-- <sup>b</sup>	-- <sup>b</sup>	-- <sup>b</sup>	-- <sup>b</sup>	-- <sup>b</sup>	-- <sup>b</sup>
96-120	-- <sup>b</sup>	-- <sup>b</sup>	-- <sup>b</sup>	-- <sup>b</sup>	-- <sup>b</sup>	-- <sup>b</sup>	-- <sup>b</sup>	-- <sup>b</sup>
120-144	-- <sup>b</sup>	-- <sup>b</sup>	-- <sup>b</sup>	-- <sup>b</sup>	-- <sup>b</sup>	-- <sup>b</sup>	-- <sup>b</sup>	-- <sup>b</sup>
144-168	-- <sup>b</sup>	-- <sup>b</sup>	-- <sup>b</sup>	-- <sup>b</sup>	-- <sup>b</sup>	-- <sup>b</sup>	-- <sup>b</sup>	-- <sup>b</sup>

a: ~100 mL 3.4 N KOH (see protocol deviation, **Appendix A**) used to collect expired <sup>14</sup>CO<sub>2</sub> samples – actual weight of 3.4 N KOH (see protocol deviation, **Appendix A**) recorded at time of collection.  
 b: Samples not collected per client approved protocol deviation (**Appendix A**).

<b>Table 117</b> Radioactivity in Expired <sup>14</sup> C <sub>2</sub> O <sub>2</sub> Samples from Female Rats Following a Single, Nose-Only, Vapor Inhalation Exposure to <sup>14</sup> C-D <sub>5</sub> at a Target D <sub>5</sub> Concentration of 7 ppm								
Collection Interval (Hr Post-exposure)	Radioactivity (µg equiv <sup>14</sup> C-D <sub>5</sub> /g) <sup>a</sup> by Animal Number							
	1549	1550	1551	1552	1553	Mean	%RSD	n
0-6	0.0118	0.00625	0.00665	0.00498	0.00412	0.00677	44	5
6-12	0.00393	0.00200	0.00254	0.00240	0.00168	0.00251	34	5
12-24	0.00457	0.00222	0.00368	0.00249	0.00218	0.00303	35	5
24-48	0.00677	0.00238	0.00311	0.00227	0.00196	0.00330	60	5
48-72	0.00351	0.00148	0.00206	0.00154	0.00157	0.00203	42	5
72-96	-- <sup>b</sup>	-- <sup>b</sup>	-- <sup>b</sup>	-- <sup>b</sup>	-- <sup>b</sup>	-- <sup>b</sup>	-- <sup>b</sup>	-- <sup>b</sup>
96-120	-- <sup>b</sup>	-- <sup>b</sup>	-- <sup>b</sup>	-- <sup>b</sup>	-- <sup>b</sup>	-- <sup>b</sup>	-- <sup>b</sup>	-- <sup>b</sup>
120-144	-- <sup>b</sup>	-- <sup>b</sup>	-- <sup>b</sup>	-- <sup>b</sup>	-- <sup>b</sup>	-- <sup>b</sup>	-- <sup>b</sup>	-- <sup>b</sup>
144-168	-- <sup>b</sup>	-- <sup>b</sup>	-- <sup>b</sup>	-- <sup>b</sup>	-- <sup>b</sup>	-- <sup>b</sup>	-- <sup>b</sup>	-- <sup>b</sup>

a: ~100 mL 3.4 N KOH (see protocol deviation, **Appendix A**) used to collected expired <sup>14</sup>C<sub>2</sub>O<sub>2</sub> samples – actual weight of 3.4 N KOH (see protocol deviation, **Appendix A**) recorded at time of collection.

b: Samples not collected per client approved protocol deviation (**Appendix A**).

**Table 118** Radioactivity in Expired <sup>14</sup>CO<sub>2</sub> Samples from Male Rats Following a Single, Nose-Only, Vapor Inhalation Exposure to <sup>14</sup>C-D<sub>5</sub> at a Target D<sub>5</sub> Concentration of 160 ppm

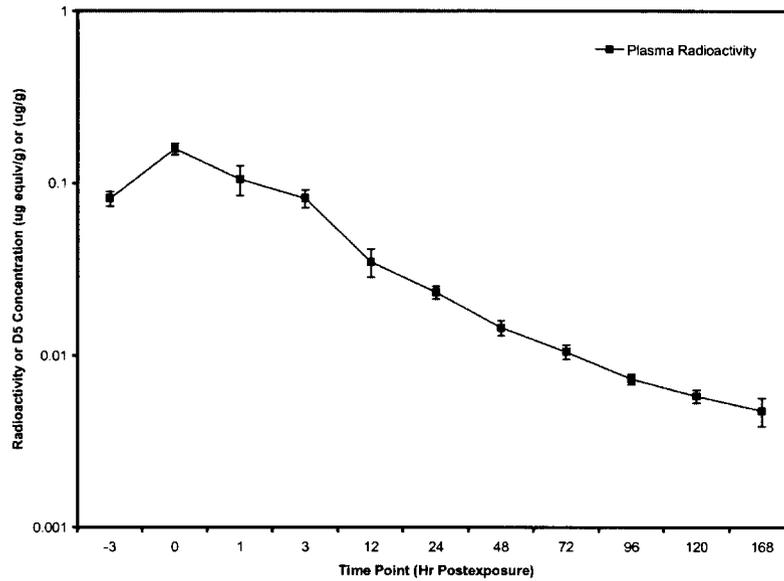
Collection Interval (Hr Post-exposure)	Radioactivity (µg equiv <sup>14</sup> C-D <sub>5</sub> /g) <sup>a</sup> by Animal Number							
	2049	2050	2051	2052	2053	Mean	%RSD	n
0-6	0.547	0.435	0.462	0.420	0.433	0.459	11	5
6-12	0.295	0.277	0.292	0.247	0.238	0.270	10	5
12-24	0.251	0.114	0.262	0.222	0.263	0.222	28	5
24-48	0.117	0.109	0.137	0.125	0.126	0.123	9	5
48-72	0.0591	0.0513	0.0778	0.0645	0.0638	0.0633	15	5
72-96	0.0450	0.0385	0.0405	0.0348	0.0375	0.0393	10	5
96-120	0.0304	0.0344	0.0337	0.0256	0.0319	0.0312	11	5
120-144	0.0290	0.0250	0.0265	0.0276	0.0277	0.0271	6	5
144-168	0.0263	0.0258	0.0255	0.0251	0.0263	0.0258	2	5

a: ~100 mL 3.4 N KOH (see protocol deviation, **Appendix A**) used to collect expired <sup>14</sup>CO<sub>2</sub> samples – actual weight of 3.4 N KOH (see protocol deviation, **Appendix A**) recorded at time of collection.

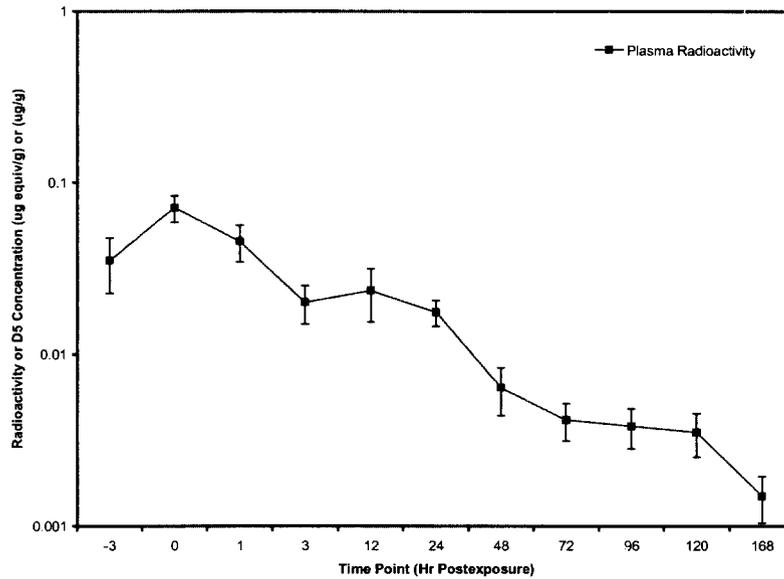
**Table 119** Radioactivity in Expired <sup>14</sup>CO<sub>2</sub> Samples from Female Rats Following a Single, Nose-Only, Vapor Inhalation Exposure to <sup>14</sup>C-D<sub>5</sub> at a Target D<sub>5</sub> Concentration of 160 ppm

Collection Interval (Hr Post-exposure)	Radioactivity (µg equiv <sup>14</sup> C-D <sub>5</sub> /g) <sup>a</sup> by Animal Number							
	2549	2550	2551	2552	2553	Mean	%RSD	n
0-6	0.187	0.193	0.155	0.188	0.104	0.165	23	5
6-12	0.139	0.104	0.0900	0.113	0.0687	0.103	26	5
12-24	0.208	0.0981	0.0826	0.0966	0.0617	0.109	52	5
24-48	0.105	0.0592	0.0467	0.0553	0.0360	0.0605	44	5
48-72	0.0604	0.0314	0.0297	0.0352	0.0241	0.0361	39	5
72-96	0.0385	0.0297	0.0222	0.0244	0.0223	0.0274	25	5
96-120	0.0275	0.0241	0.0210	0.0266	0.0184	0.0235	16	5
120-144	0.0316	0.0268	0.0175	0.0220	0.0175	0.0231	26	5
144-168	0.0238	0.0188	0.0190	0.0221	0.0150	0.0198	17	5

a: ~100 mL 3.4 N KOH (see protocol deviation, **Appendix A**) used to collect expired <sup>14</sup>CO<sub>2</sub> samples – actual weight of 3.4 N KOH (see protocol deviation, **Appendix A**) recorded at time of collection.

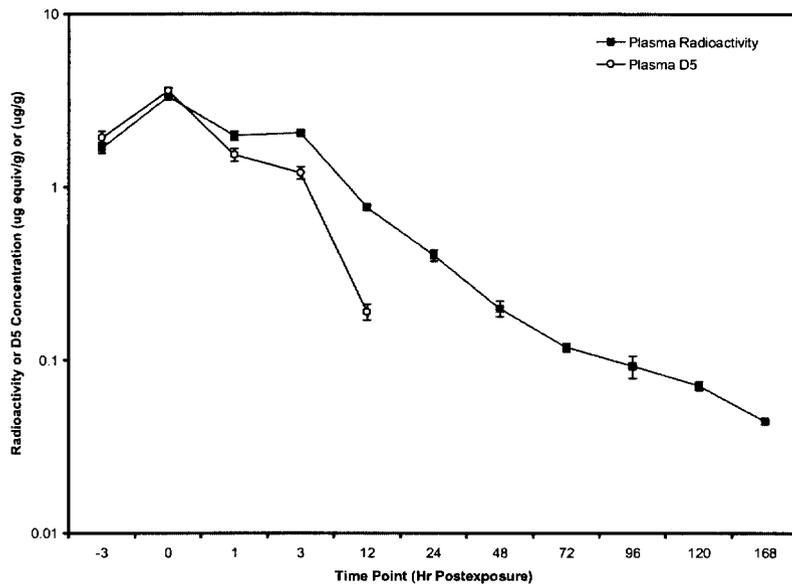


(A)

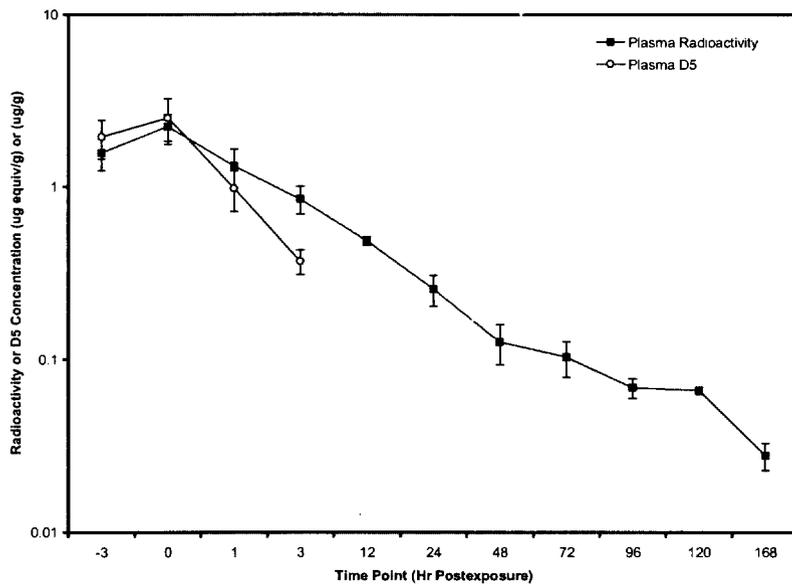


(B)

**Figure 1** Semilog Plots of Mean  $\pm$  Standard Error for Concentrations of Radioactivity in Plasma from Male Rats (A) and Female Rats (B) Exposed to a Target D<sub>5</sub> Concentration of 7 ppm.

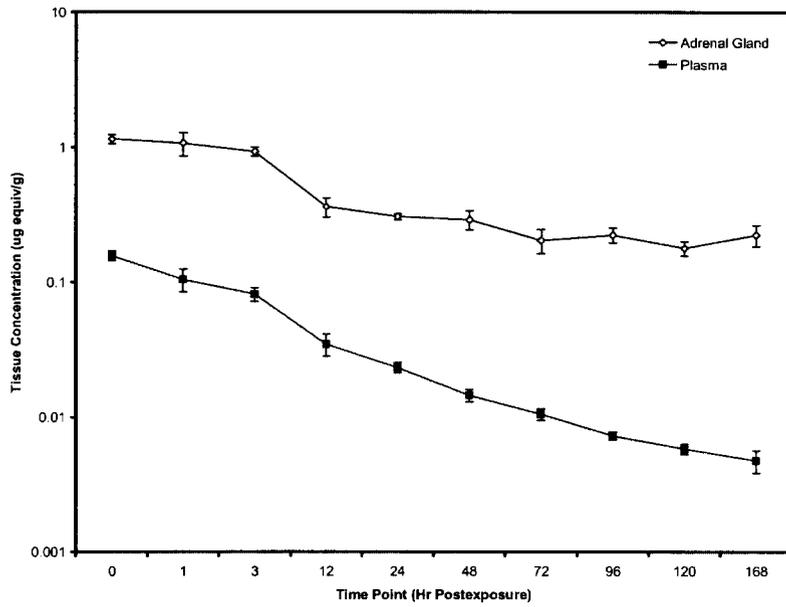


(A)

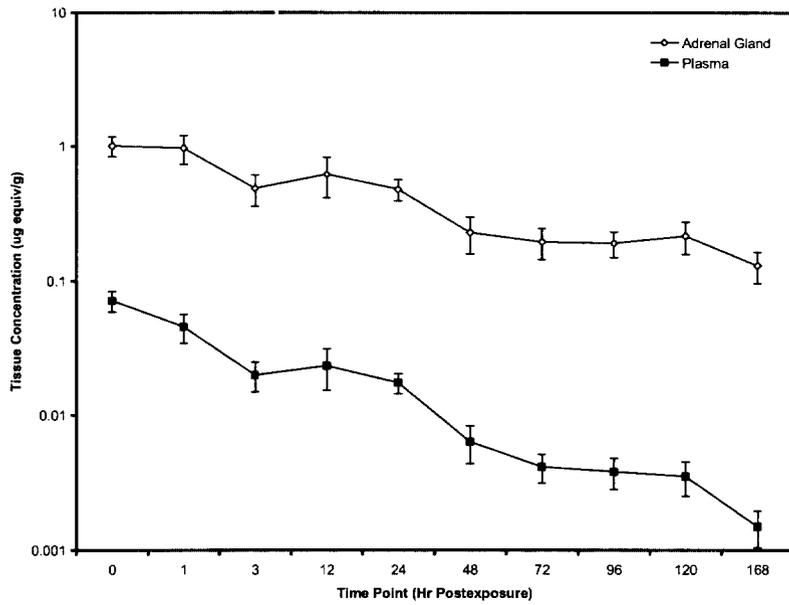


(B)

**Figure 2** Semilog Plots of Mean  $\pm$  Standard Error for Concentrations of Radioactivity and D<sub>5</sub> in Plasma from Male Rats (A) and Female Rats (B) Exposed to a Target D<sub>5</sub> Concentration of 160 ppm.

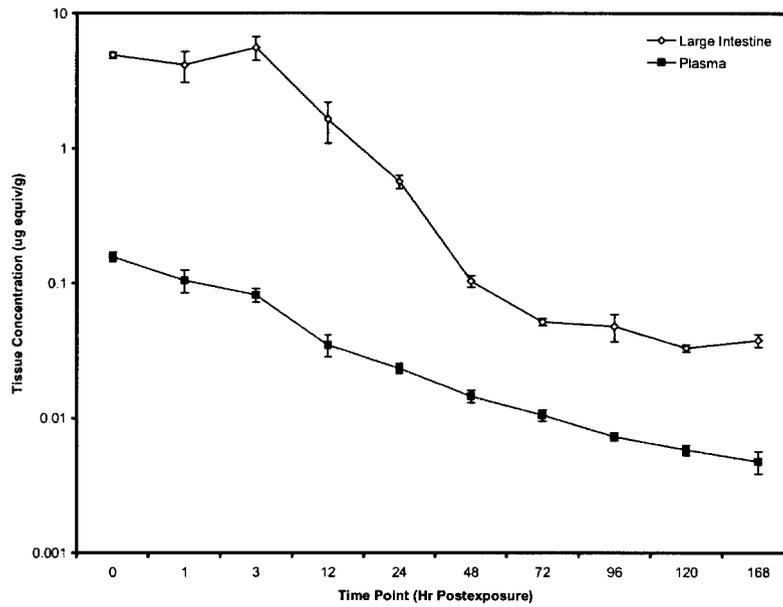


(A)

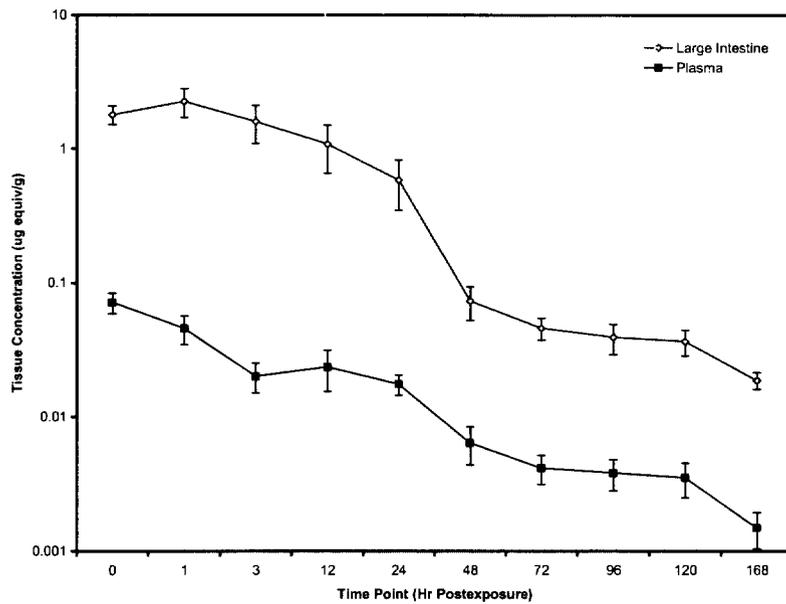


(B)

**Figure 3** Semilog Plots of Mean  $\pm$  Standard Error for Concentrations of Radioactivity in Adrenal Glands and Plasma from Male Rats (A) and Female Rats (B) Exposed to a Target  $D_5$  Concentration of 7 ppm.

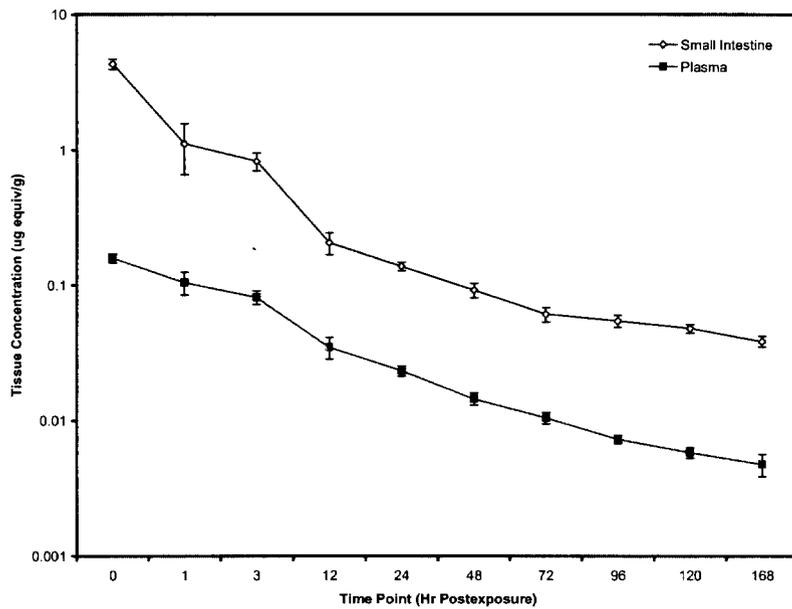


(A)

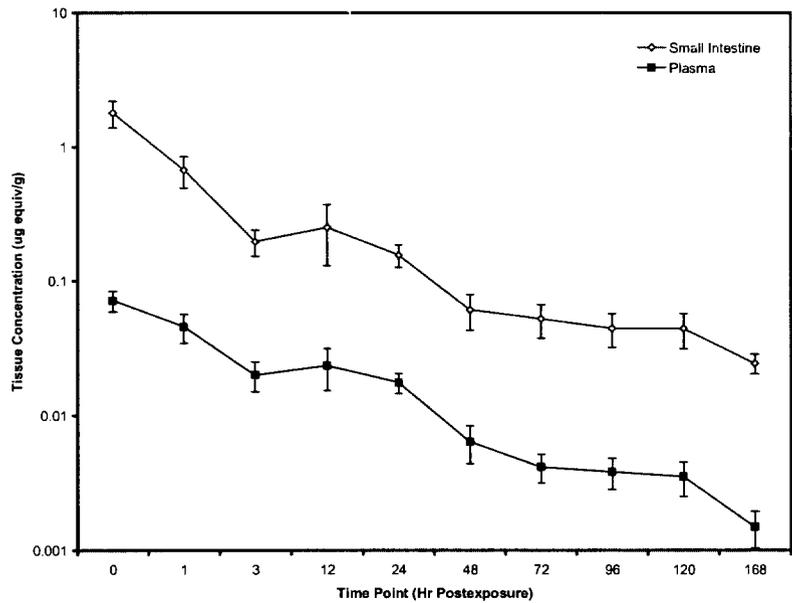


(B)

**Figure 4** Semilog Plots of Mean  $\pm$  Standard Error for Concentrations of Radioactivity in Large Intestine and Plasma from Male Rats (A) and Female Rats (B) Exposed to a Target  $D_5$  Concentration of 7 ppm.

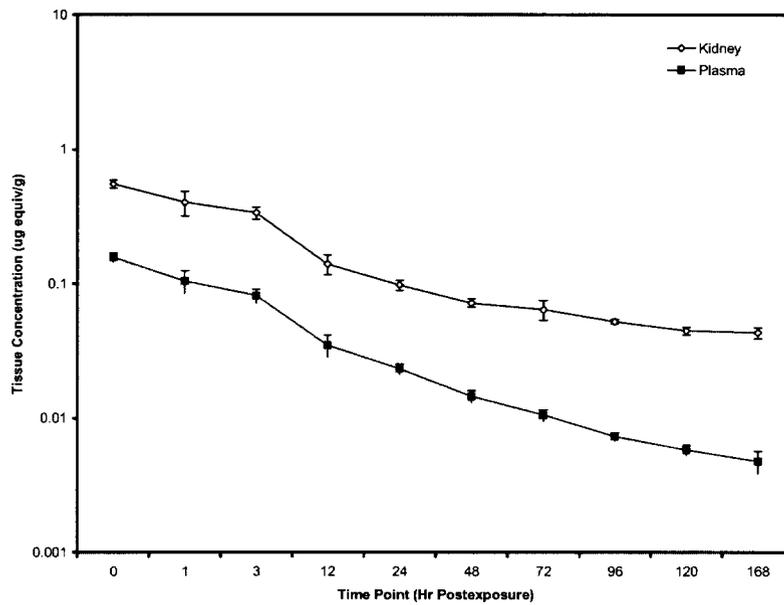


(A)

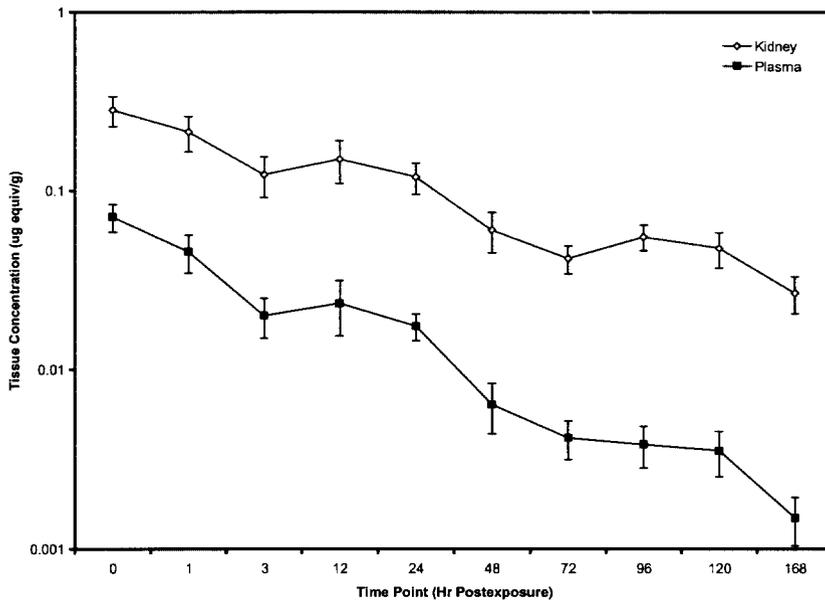


(B)

**Figure 5** Semilog Plots of Mean  $\pm$  Standard Error for Concentrations of Radioactivity in Small Intestine and Plasma from Male Rats (A) and Female Rats (B) Exposed to a Target D<sub>5</sub> Concentration of 7 ppm.

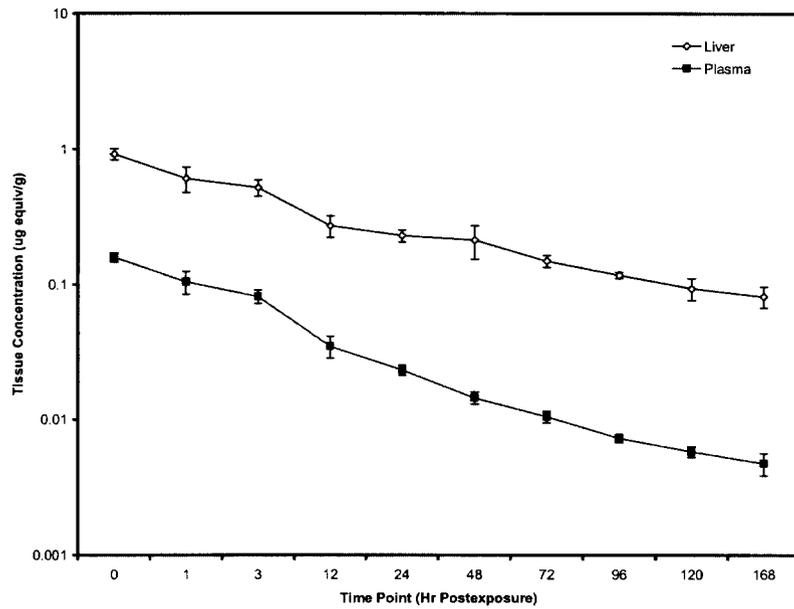


(A)

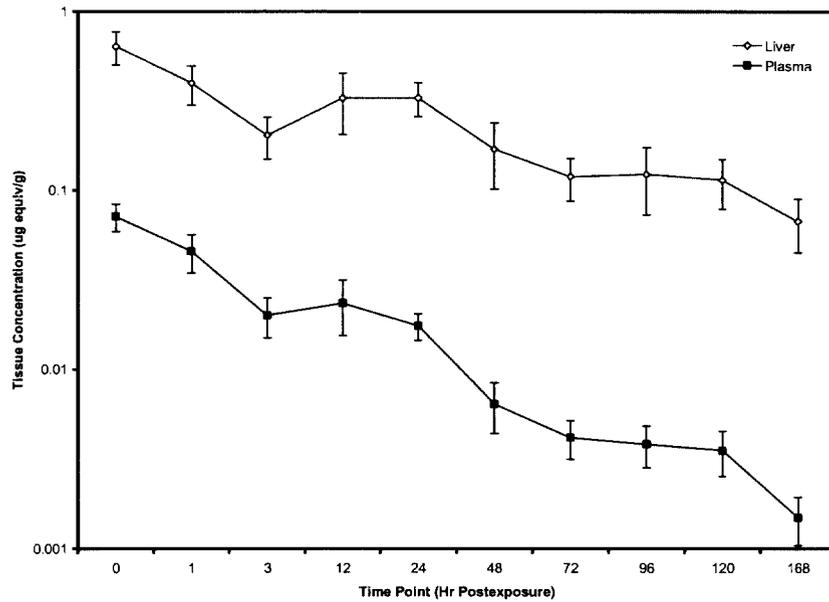


(B)

**Figure 6** Semilog Plots of Mean  $\pm$  Standard Error for Concentrations of Radioactivity in Kidney and Plasma from Male Rats (A) and Female Rats (B) Exposed to a Target  $D_5$  Concentration of 7 ppm.

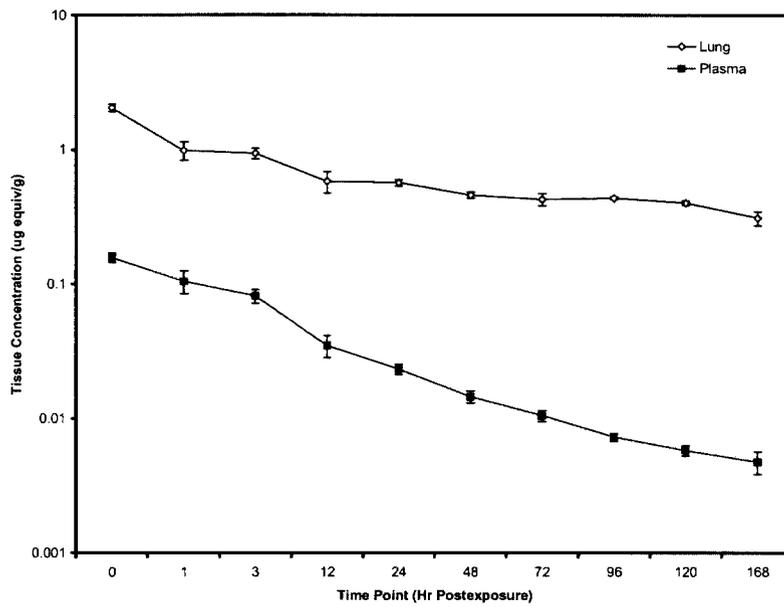


(A)

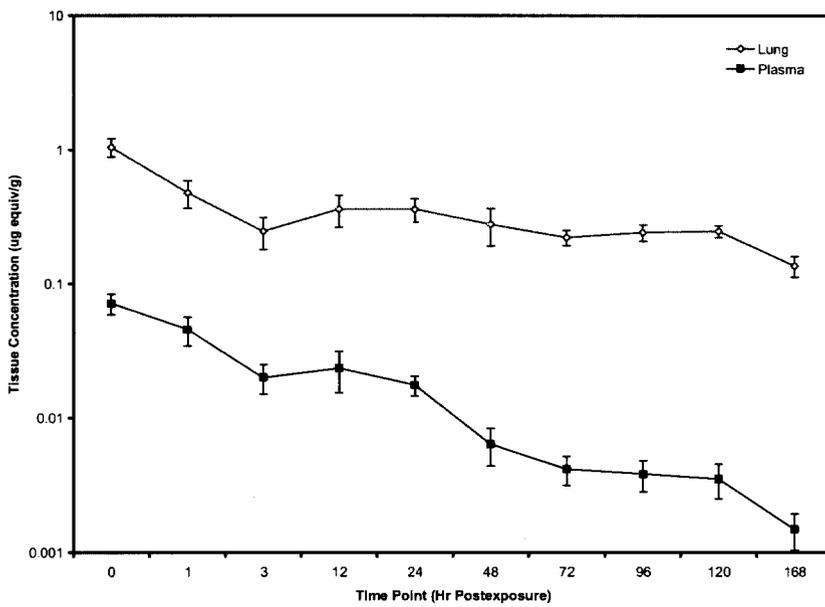


(B)

**Figure 7** Semilog Plots of Mean  $\pm$  Standard Error for Concentrations of Radioactivity in Liver and Plasma from Male Rats (A) and Female Rats (B) Exposed to a Target  $D_5$  Concentration of 7 ppm.

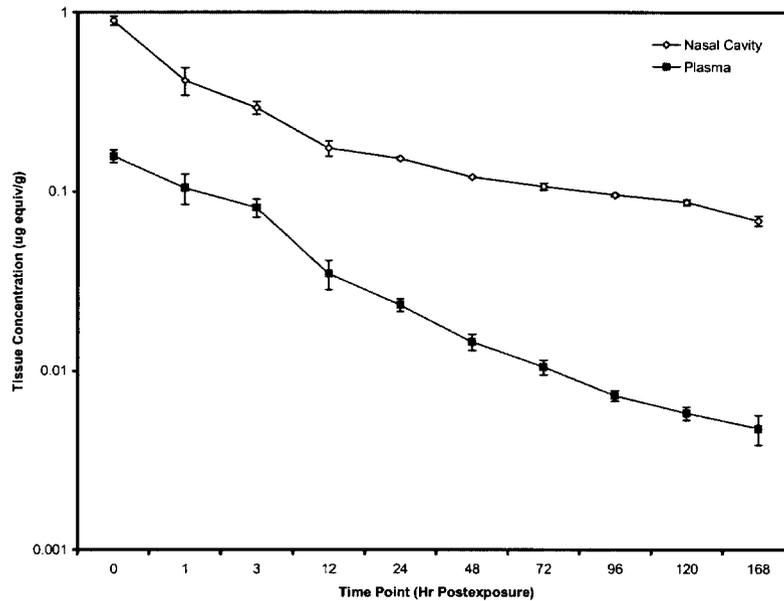


(A)

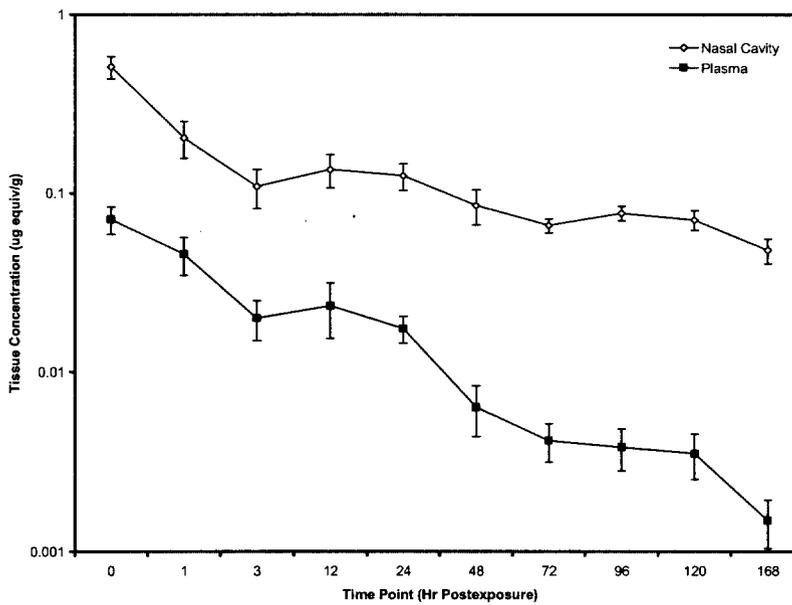


(B)

**Figure 8** Semilog Plots of Mean  $\pm$  Standard Error for Concentrations of Radioactivity in Lung and Plasma from Male Rats (A) and Female Rats (B) Exposed to a Target  $D_5$  Concentration of 7 ppm.

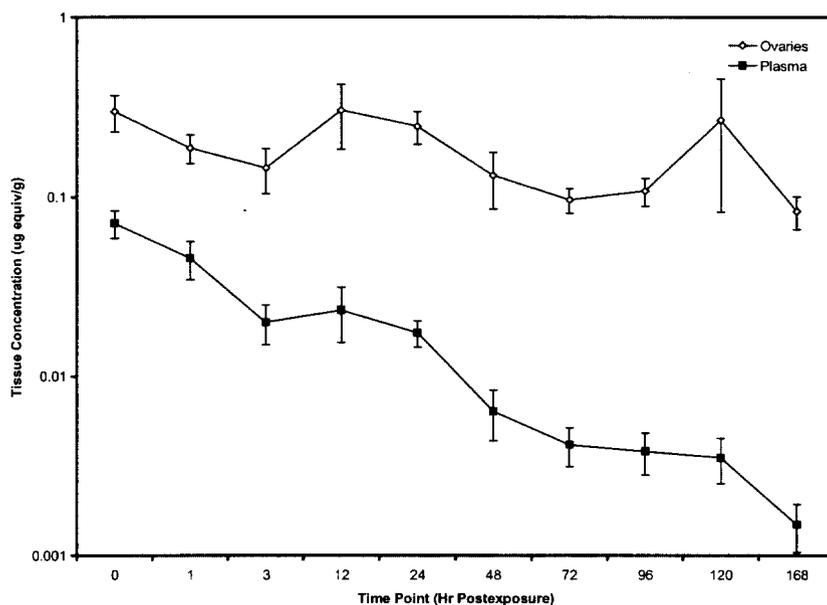


(A)

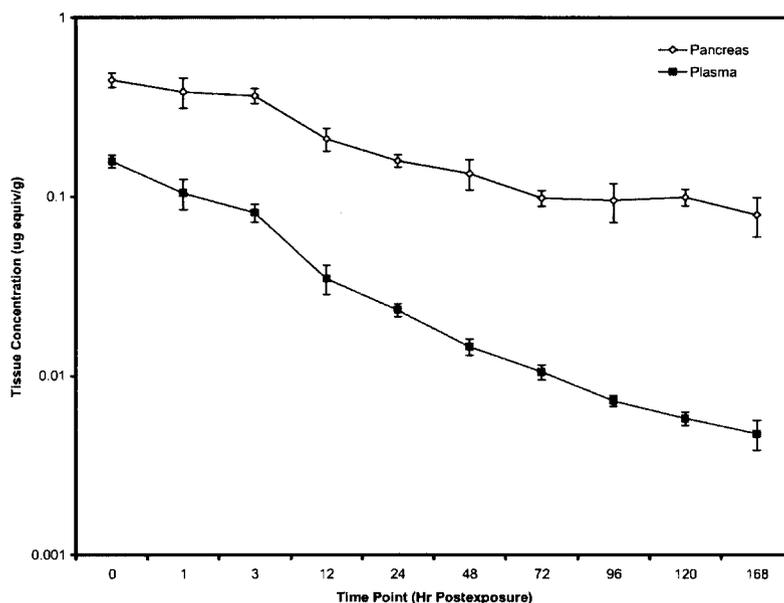


(B)

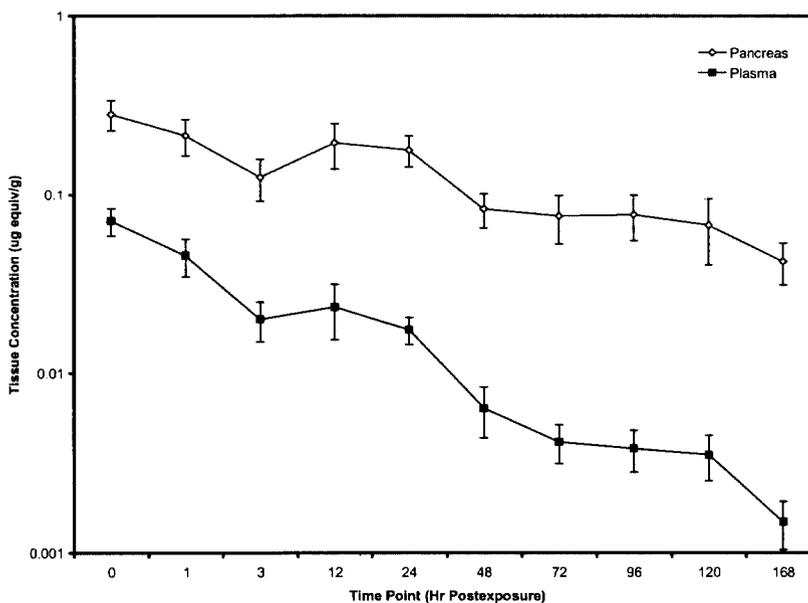
**Figure 9** Semilog Plots of Mean  $\pm$  Standard Error for Concentrations of Radioactivity in Nasal Cavity and Plasma from Male Rats (A) and Female Rats (B) Exposed to a Target  $D_5$  Concentration of 7 ppm.



**Figure 10** Semilog Plots of Mean  $\pm$  Standard Error for Concentrations of Radioactivity in Ovaries and Plasma from Female Rats Exposed to a Target  $D_5$  Concentration of 7 ppm.

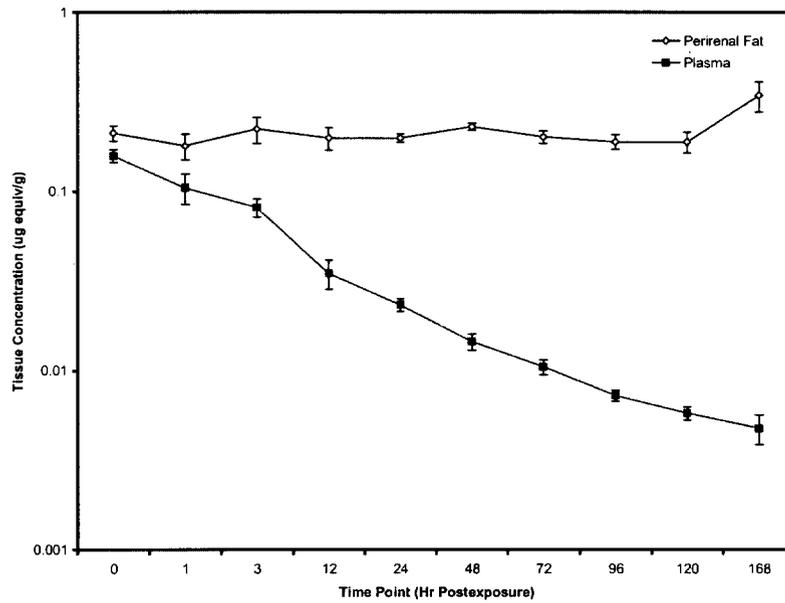


(A)

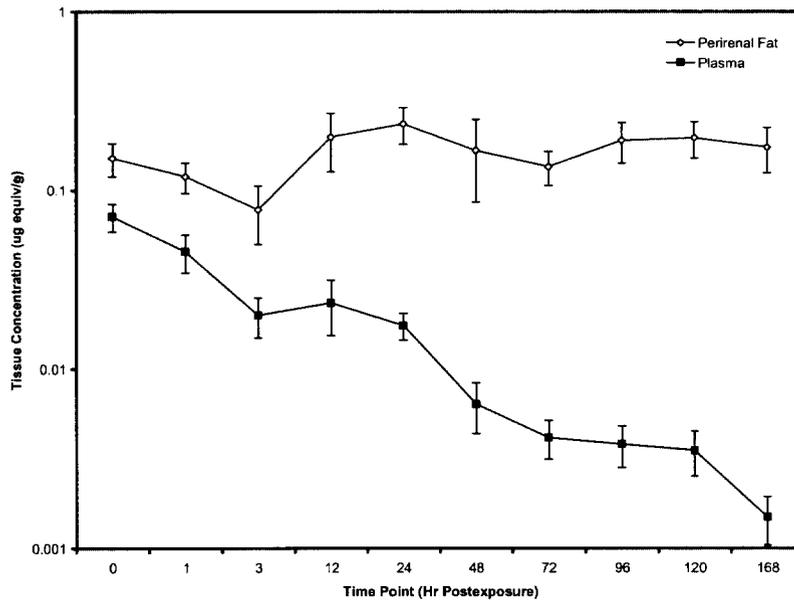


(B)

**Figure 11** Semilog Plots of Mean  $\pm$  Standard Error for Concentrations of Radioactivity in Pancreas and Plasma from Male Rats (A) and Female Rats (B) Exposed to a Target  $D_5$  Concentration of 7 ppm.

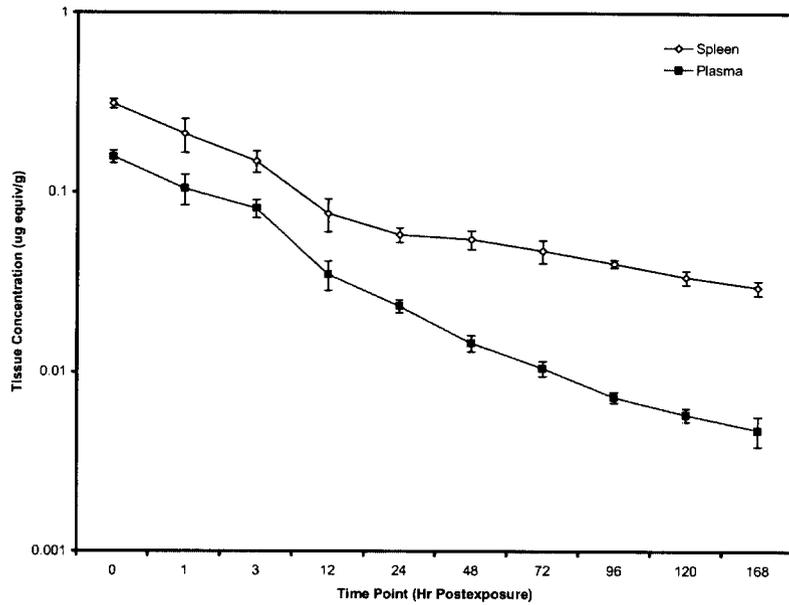


(A)

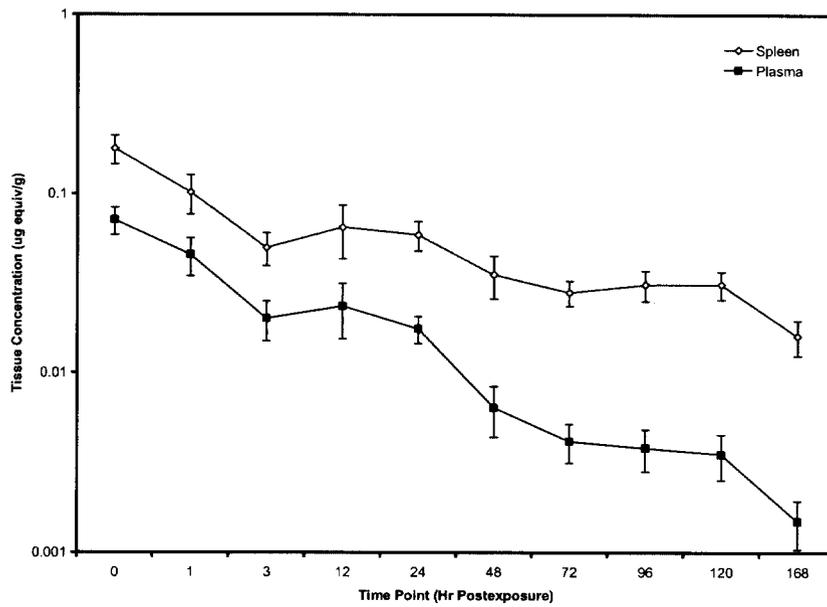


(B)

**Figure 12** Semilog Plots of Mean  $\pm$  Standard Error for Concentrations of Radioactivity in Perirenal Fat and Plasma from Male Rats (A) and Female Rats (B) Exposed to a Target  $D_5$  Concentration of 7 ppm.

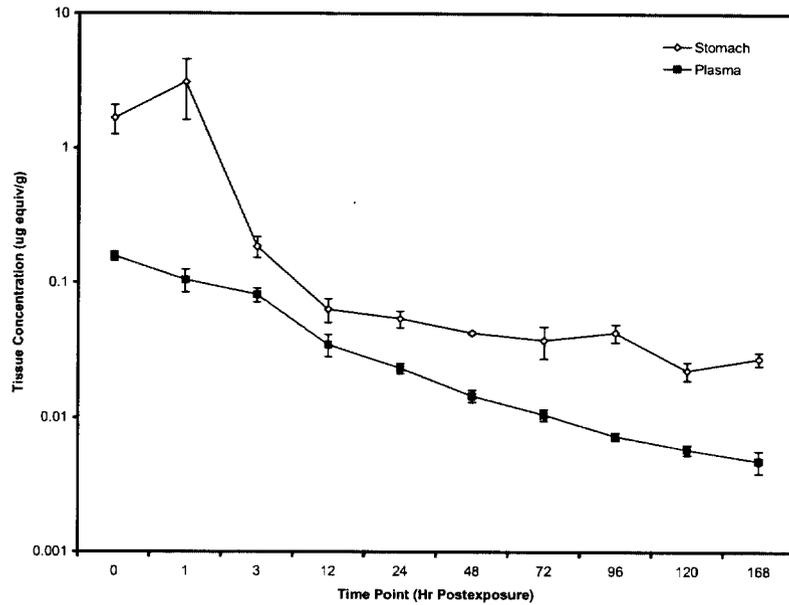


(A)

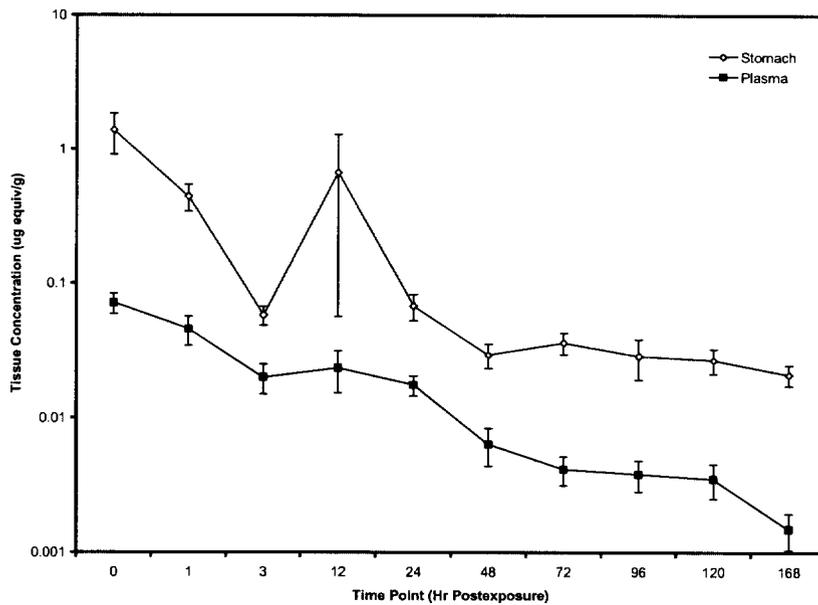


(B)

**Figure 13** Semilog Plots of Mean  $\pm$  Standard Error for Concentrations of Radioactivity in Spleen and Plasma from Male Rats (A) and Female Rats (B) Exposed to a Target  $D_5$  Concentration of 7 ppm.

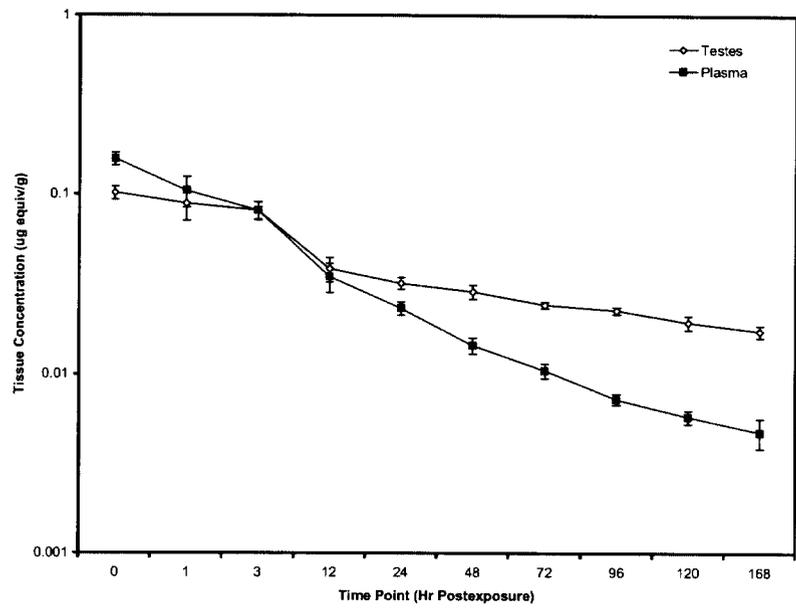


(A)

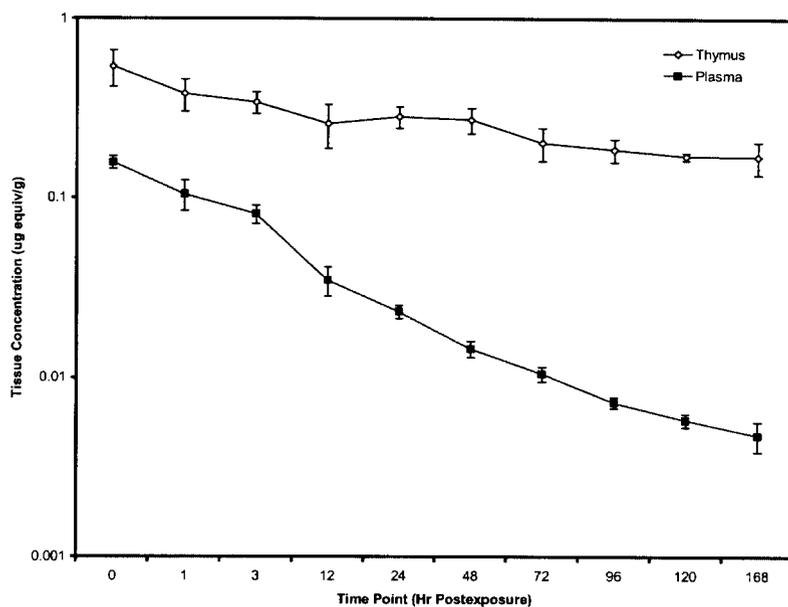


(B)

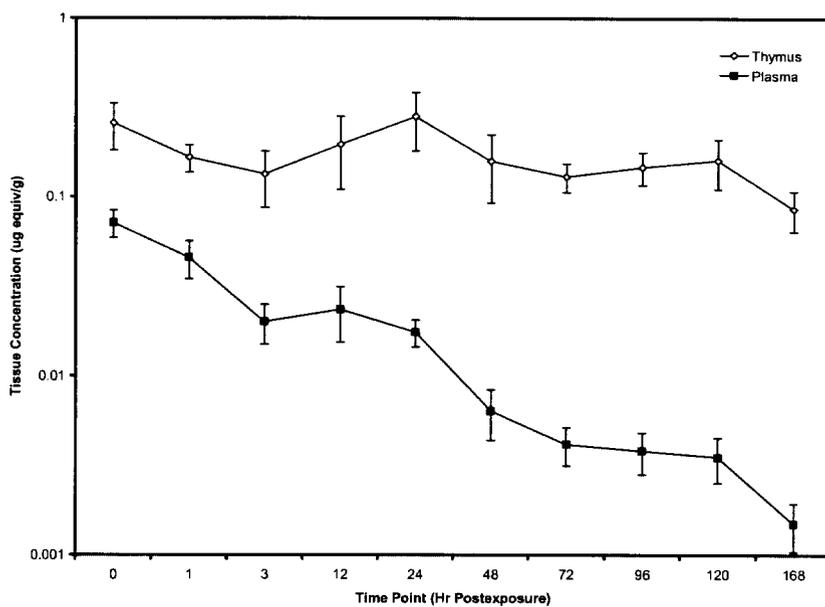
**Figure 14** Semilog Plots of Mean  $\pm$  Standard Error for Concentrations of Radioactivity in Stomach and Plasma from Male Rats (A) and Female Rats (B) Exposed to a Target  $D_5$  Concentration of 7 ppm.



**Figure 15** Semilog Plots of Mean  $\pm$  Standard Error for Concentrations of Radioactivity in Testes and Plasma from Male Rats Exposed to a Target  $D_5$  Concentration of 7 ppm.

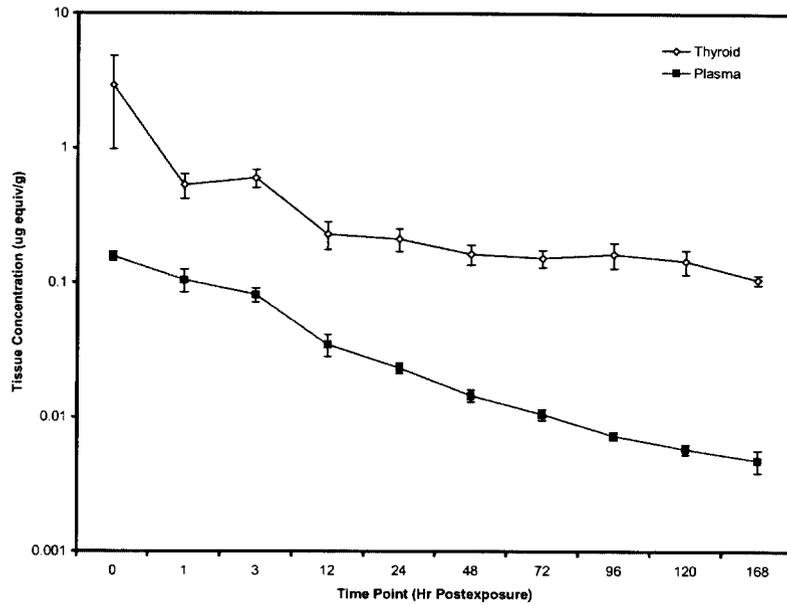


(A)

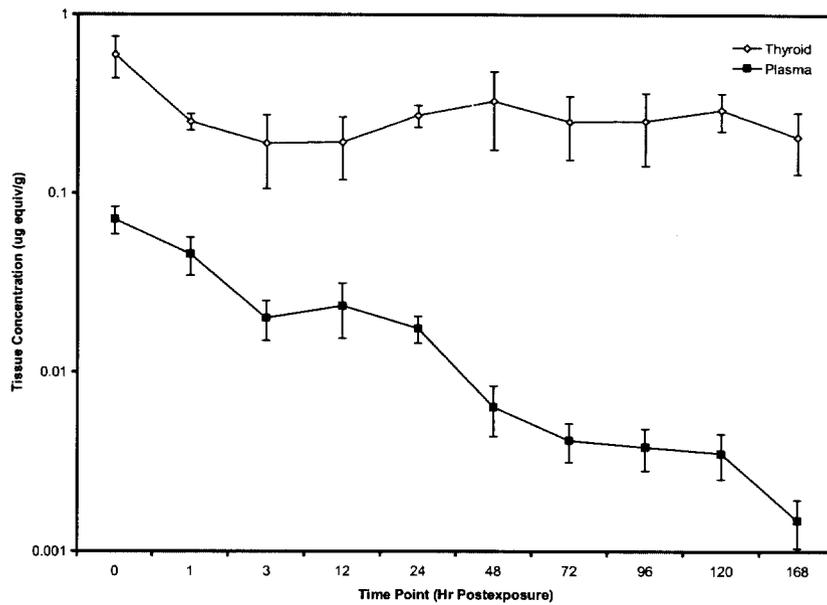


(B)

**Figure 16** Semilog Plots of Mean  $\pm$  Standard Error for Concentrations of Radioactivity in Thymus and Plasma from Male Rats (A) and Female Rats (B) Exposed to a Target  $D_5$  Concentration of 7 ppm.

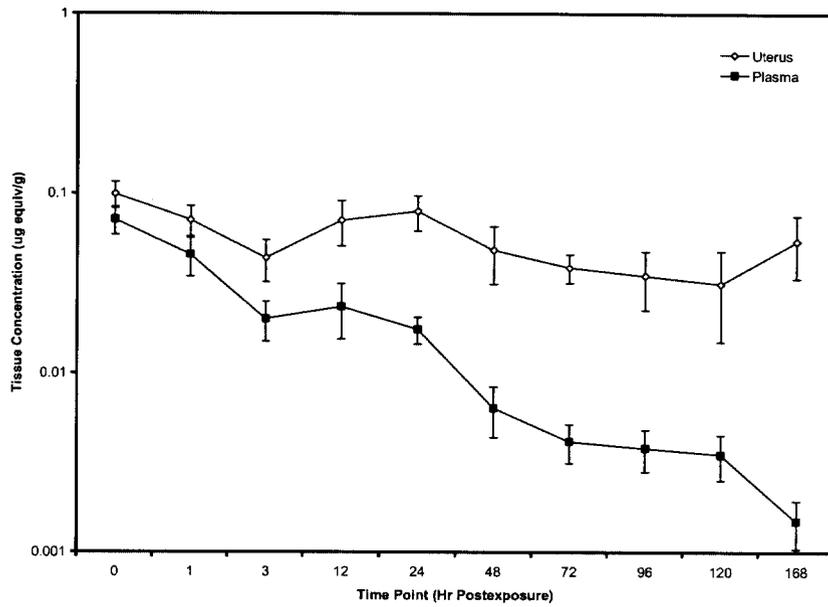


(A)

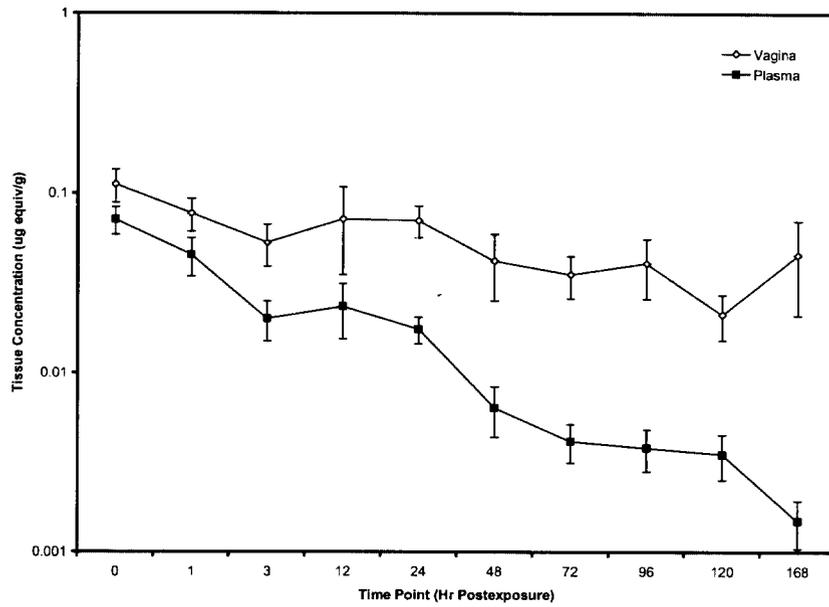


(B)

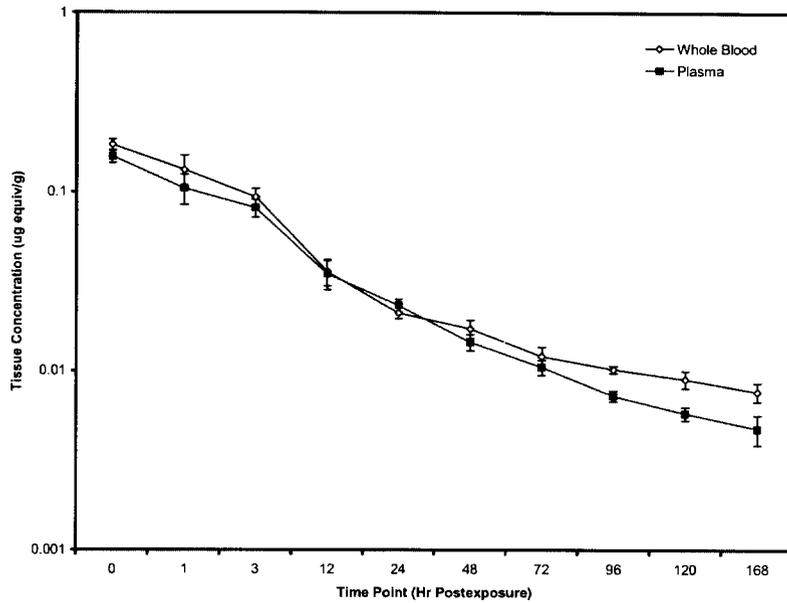
**Figure 17** Semilog Plots of Mean  $\pm$  Standard Error for Concentrations of Radioactivity in Thyroid and Plasma from Male Rats (A) and Female Rats (B) Exposed to a Target  $D_5$  Concentration of 7 ppm.



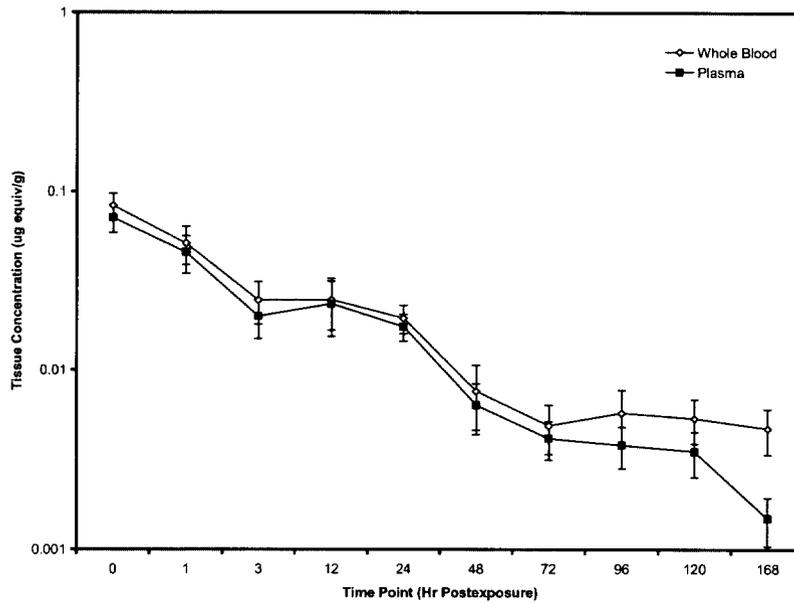
**Figure 18** Semilog Plots of Mean  $\pm$  Standard Error for Concentrations of Radioactivity in Uterus and Plasma from Female Rats Exposed to a Target  $D_5$  Concentration of 7 ppm.



**Figure 19** Semilog Plots of Mean  $\pm$  Standard Error for Concentrations of Radioactivity in Vagina and Plasma from Female Rats Exposed to a Target  $D_5$  Concentration of 7 ppm.

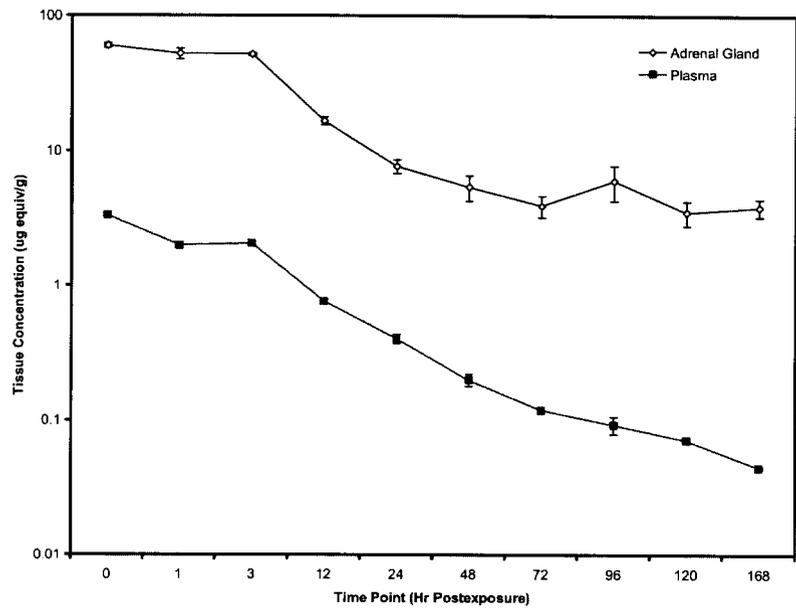


(A)

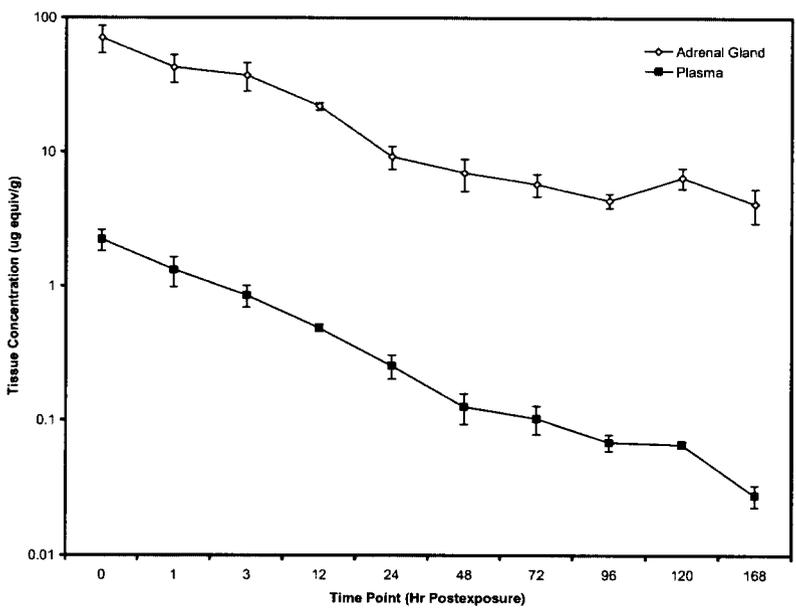


(B)

**Figure 20** Semilog Plots of Mean  $\pm$  Standard Error for Concentrations of Radioactivity in Whole Blood and Plasma from Male Rats (A) and Female Rats (B) Exposed to a Target  $D_5$  Concentration of 7 ppm.

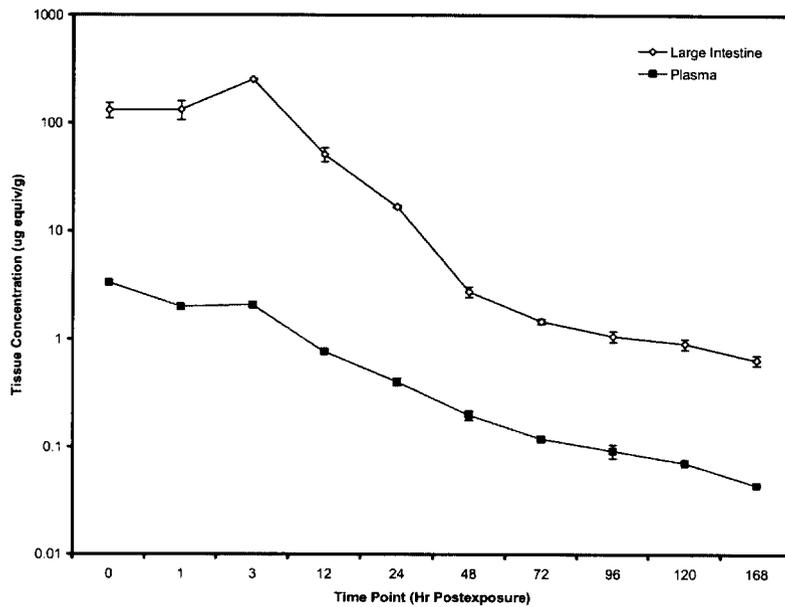


(A)

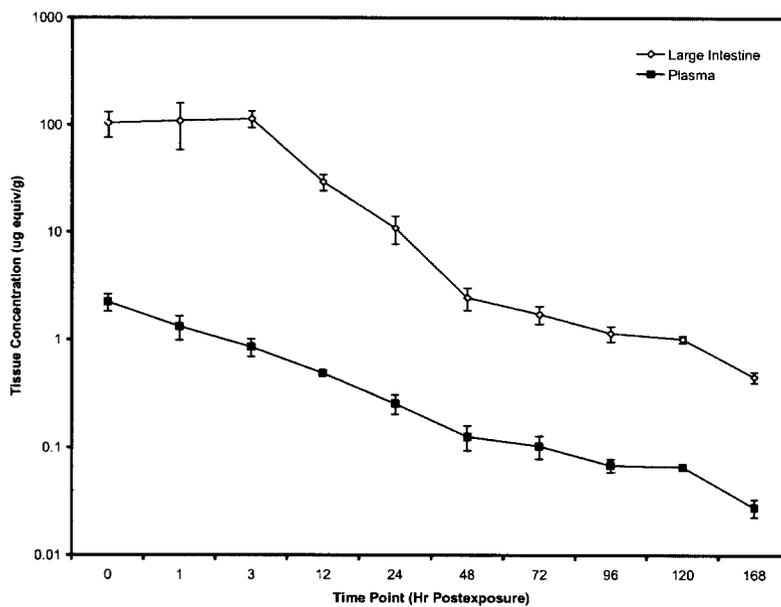


(B)

**Figure 21** Semilog Plots of Mean  $\pm$  Standard Error for Concentrations of Radioactivity in Adrenal Glands and Plasma from Male Rats (A) and Female Rats (B) Exposed to a Target D<sub>5</sub> Concentration of 160 ppm.

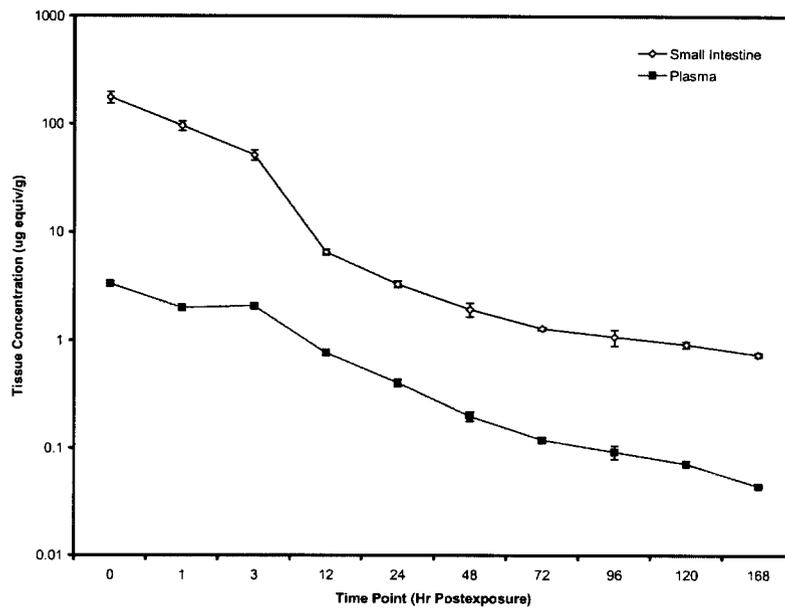


(A)

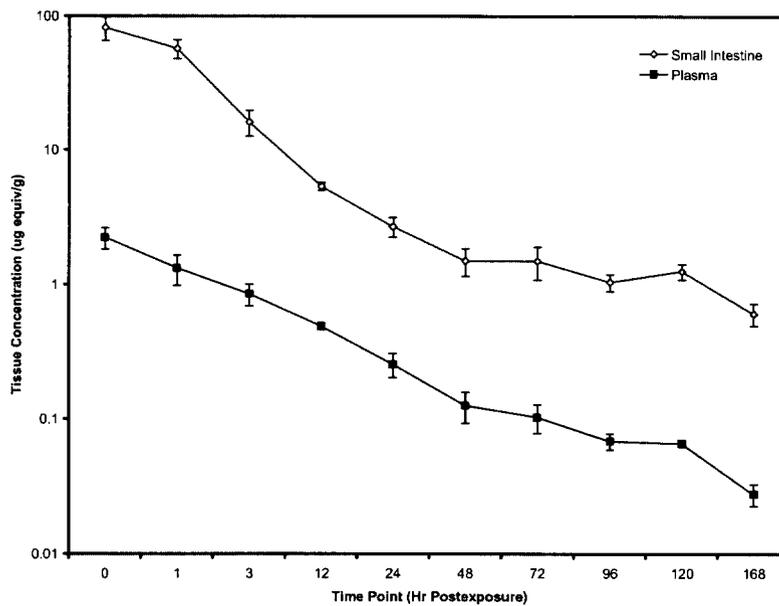


(B)

**Figure 22** Semilog Plots of Mean  $\pm$  Standard Error for Concentrations of Radioactivity in Large Intestine and Plasma from Male Rats (A) and Female Rats (B) Exposed to a Target  $D_5$  Concentration of 160 ppm.

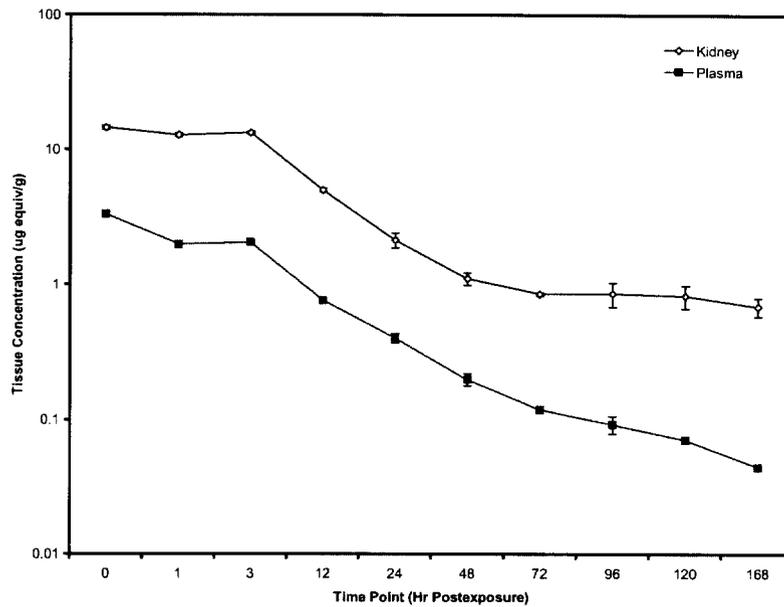


(A)

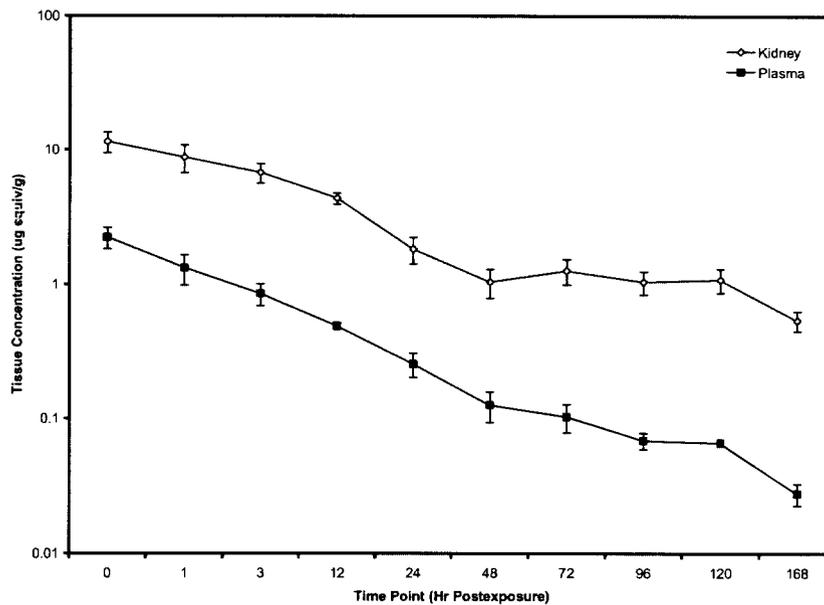


(B)

**Figure 23** Semilog Plots of Mean  $\pm$  Standard Error for Concentrations of Radioactivity in Small Intestine and Plasma from Male Rats (A) and Female Rats (B) Exposed to a Target D<sub>5</sub> Concentration of 160 ppm.

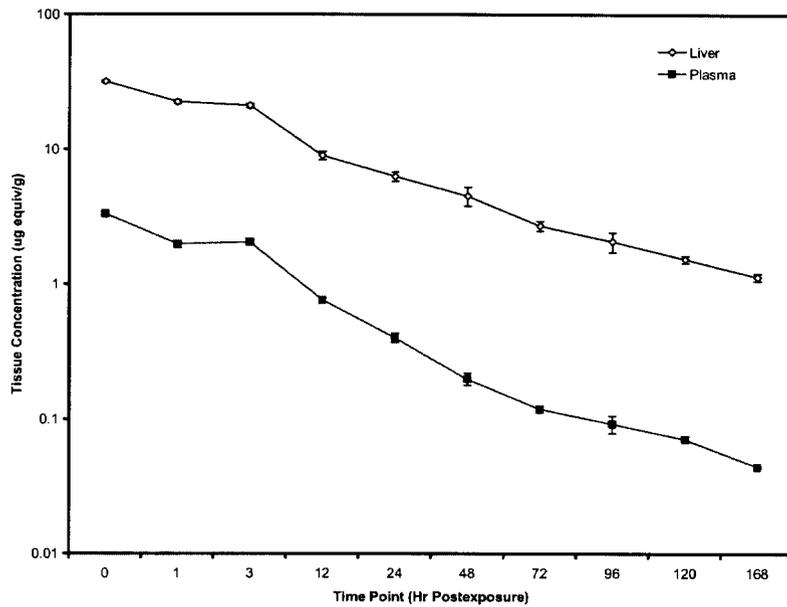


(A)

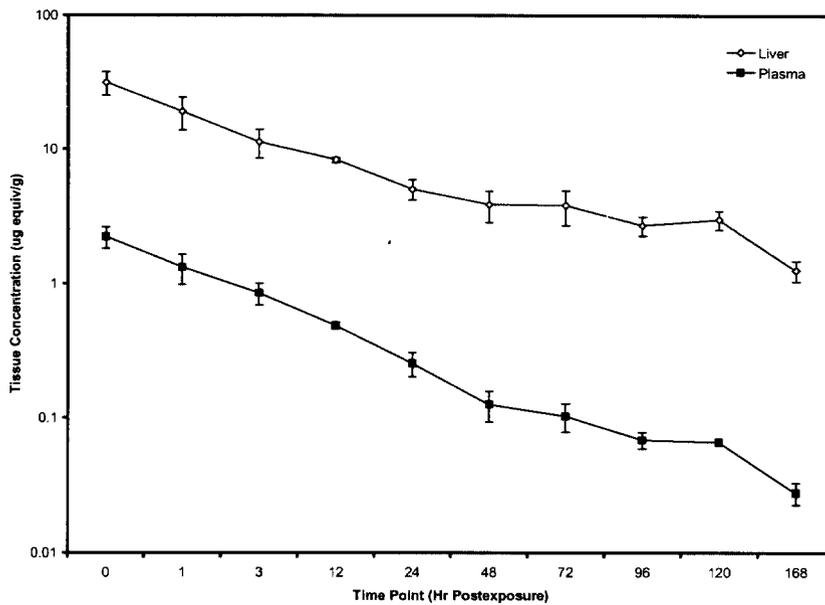


(B)

**Figure 24** Semilog Plots of Mean  $\pm$  Standard Error for Concentrations of Radioactivity in Kidney and Plasma from Male Rats (A) and Female Rats (B) Exposed to a Target  $D_5$  Concentration of 160 ppm.

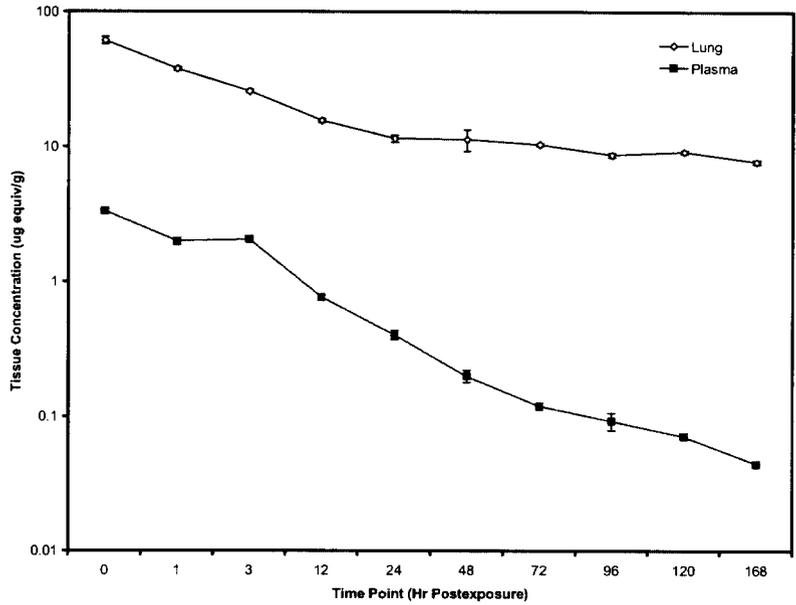


(A)

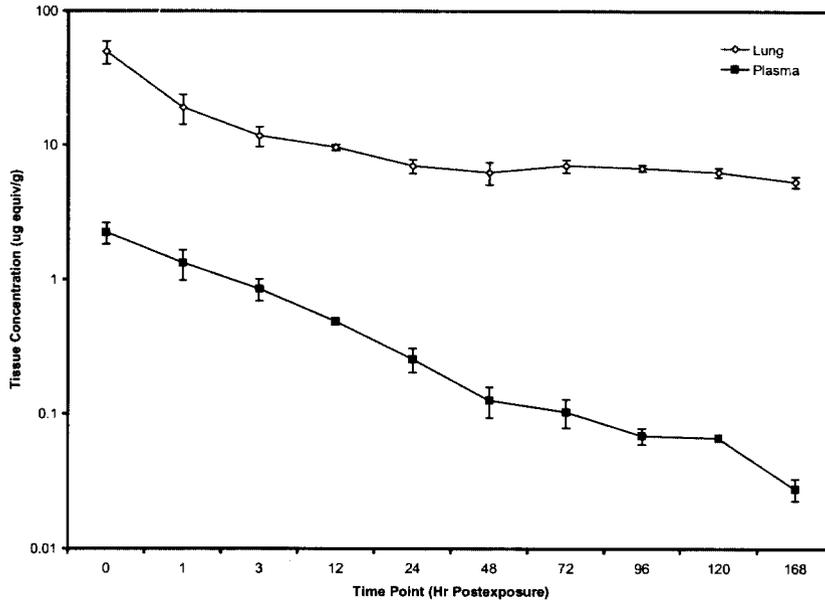


(B)

**Figure 25** Semilog Plots of Mean  $\pm$  Standard Error for Concentrations of Radioactivity in Liver and Plasma from Male Rats (A) and Female Rats (B) Exposed to a Target  $D_5$  Concentration of 160 ppm.

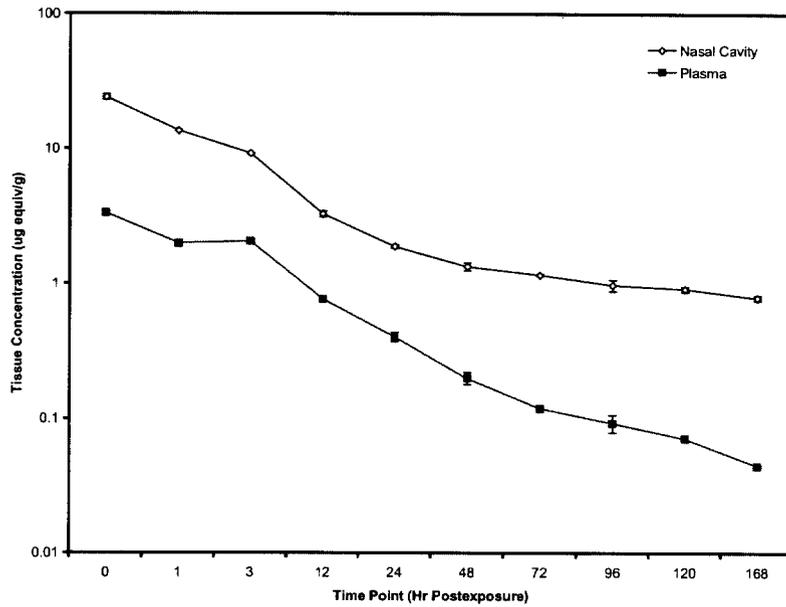


(A)

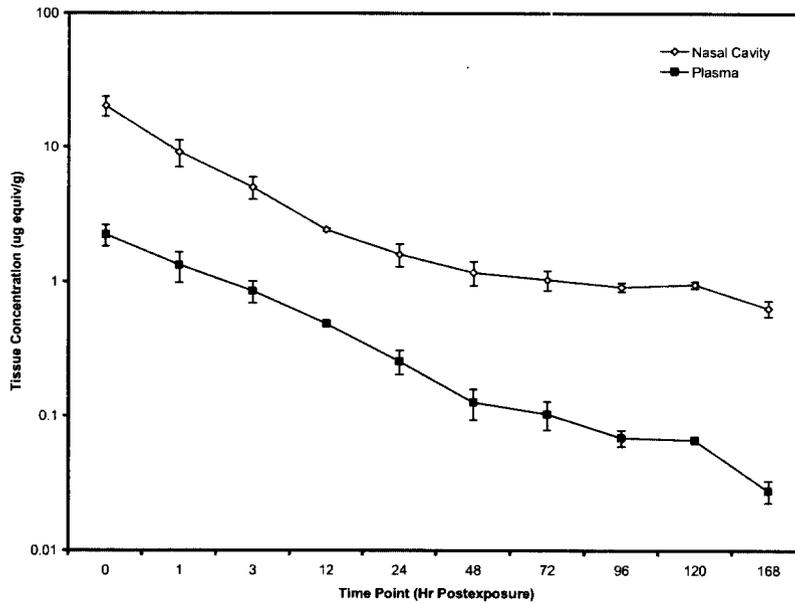


(B)

**Figure 26** Semilog Plots of Mean  $\pm$  Standard Error for Concentrations of Radioactivity in Lung and Plasma from Male Rats (A) and Female Rats (B) Exposed to a Target D<sub>5</sub> Concentration of 160 ppm.

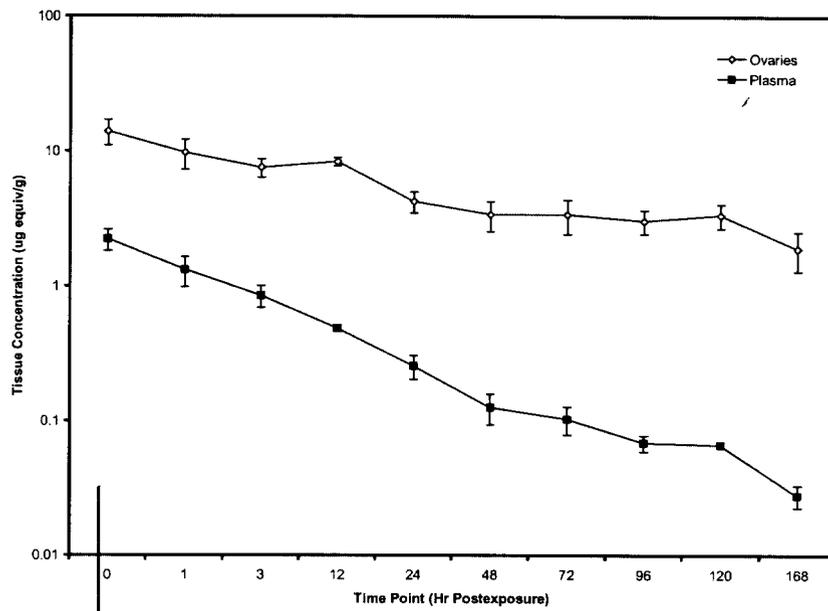


(A)

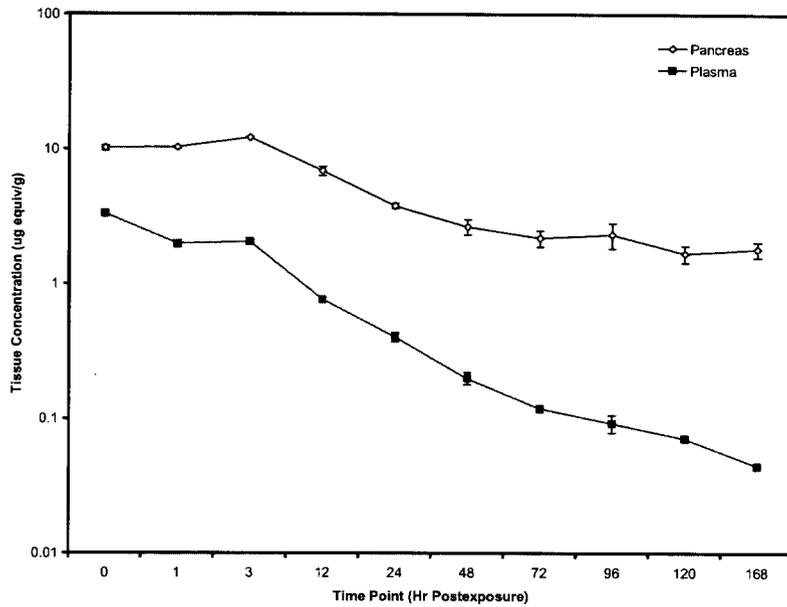


(B)

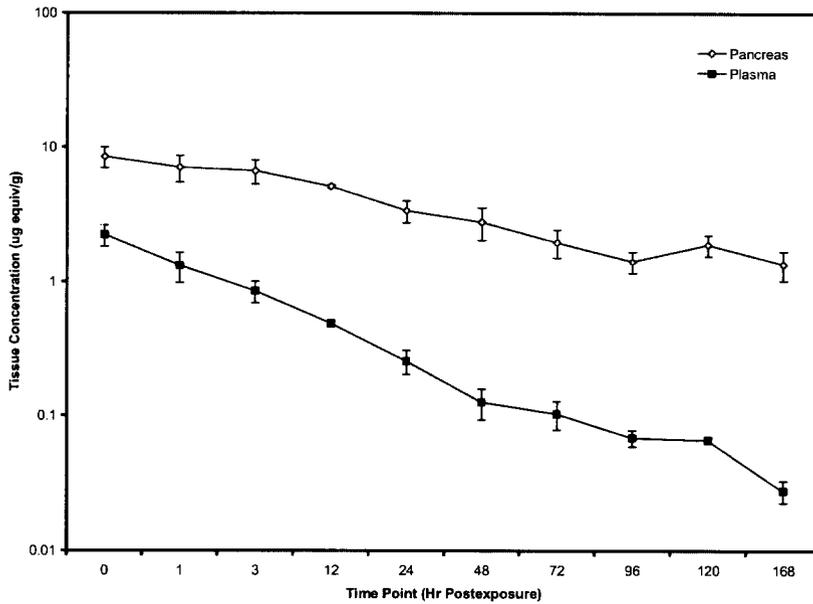
**Figure 27** Semilog Plots of Mean  $\pm$  Standard Error for Concentrations of Radioactivity in Nasal Cavity and Plasma from Male Rats (A) and Female Rats (B) Exposed to a Target  $D_5$  Concentration of 160 ppm.



**Figure 28** Semilog Plots of Mean  $\pm$  Standard Error for Concentrations of Radioactivity in Ovaries and Plasma from Female Rats Exposed to a Target  $D_5$  Concentration of 160 ppm.

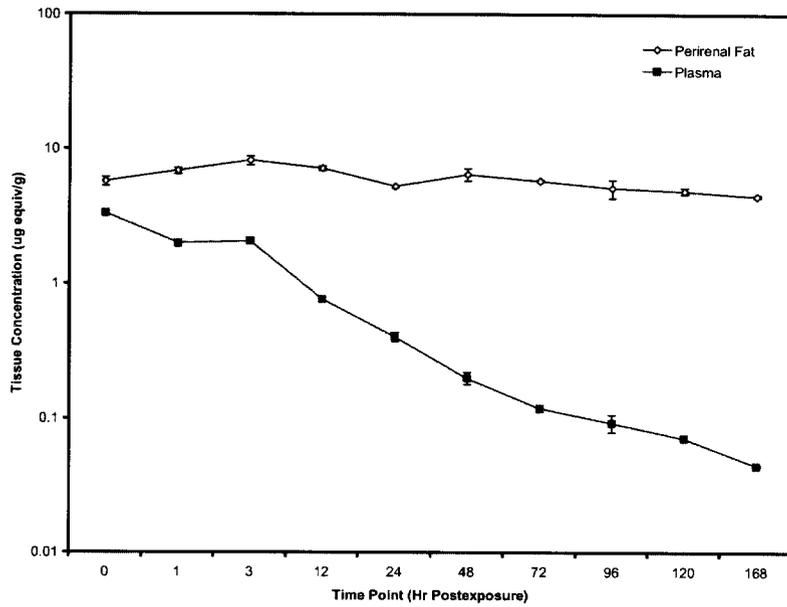


(A)

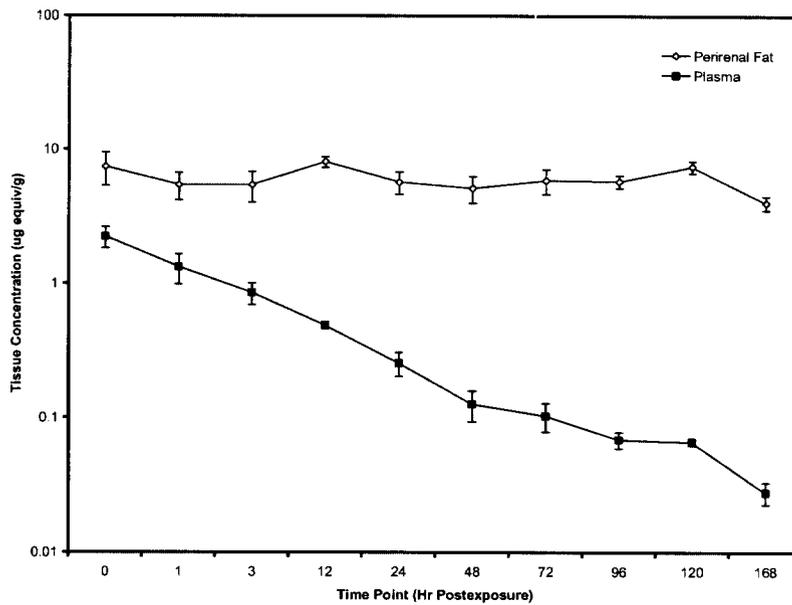


(B)

**Figure 29** Semilog Plots of Mean  $\pm$  Standard Error for Concentrations of Radioactivity in Pancreas and Plasma from Male Rats (A) and Female Rats (B) Exposed to a Target  $D_5$  Concentration of 160 ppm.

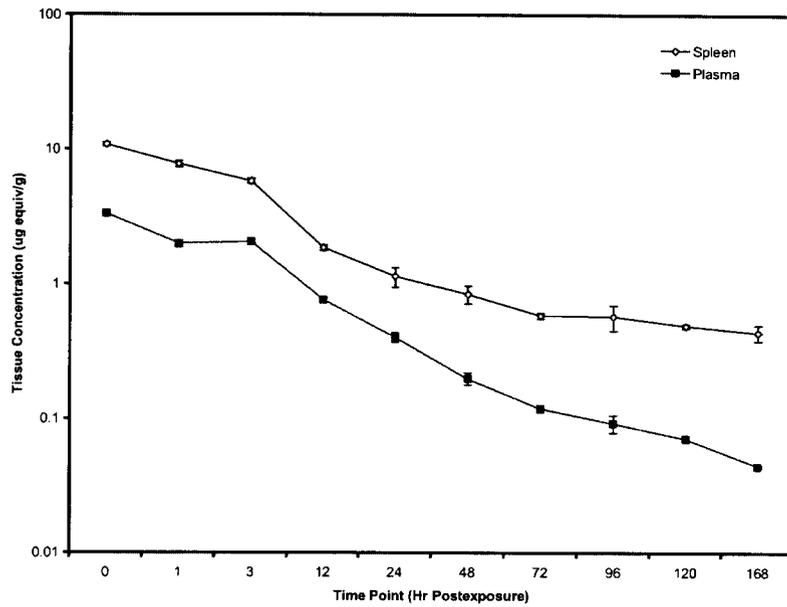


(A)

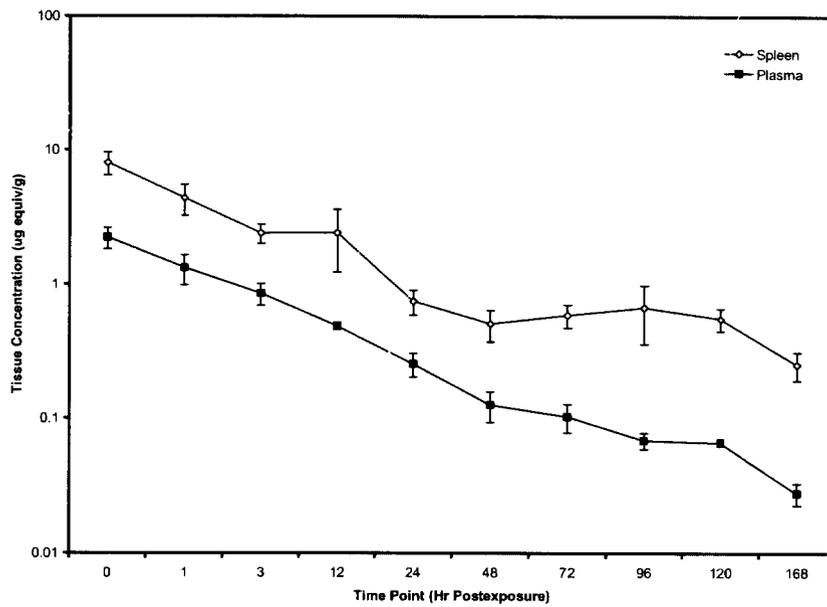


(B)

**Figure 30** Semilog Plots of Mean  $\pm$  Standard Error for Concentrations of Radioactivity in Perirenal Fat and Plasma from Male Rats (A) and Female Rats (B) Exposed to a Target  $D_5$  Concentration of 160 ppm.

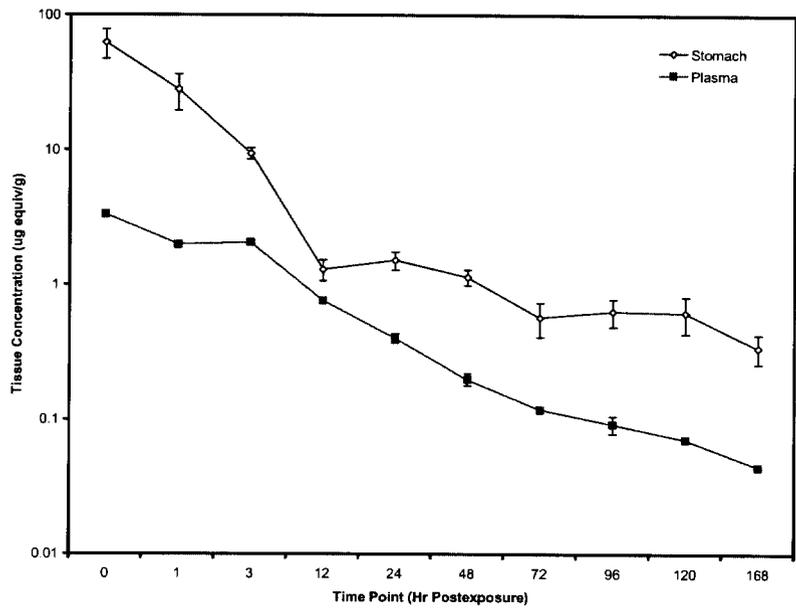


(A)

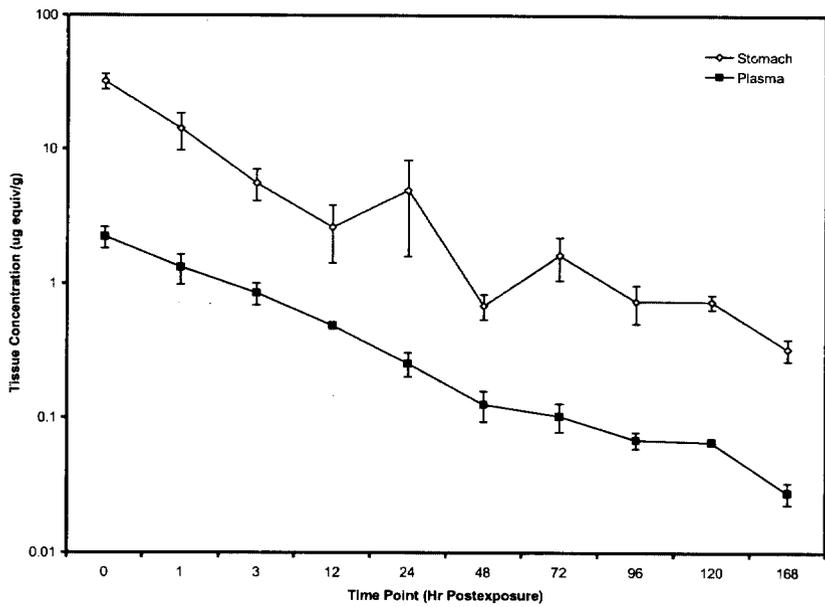


(B)

**Figure 31** Semilog Plots of Mean  $\pm$  Standard Error for Concentrations of Radioactivity in Spleen and Plasma from Male Rats (A) and Female Rats (B) Exposed to a Target  $D_5$  Concentration of 160 ppm.

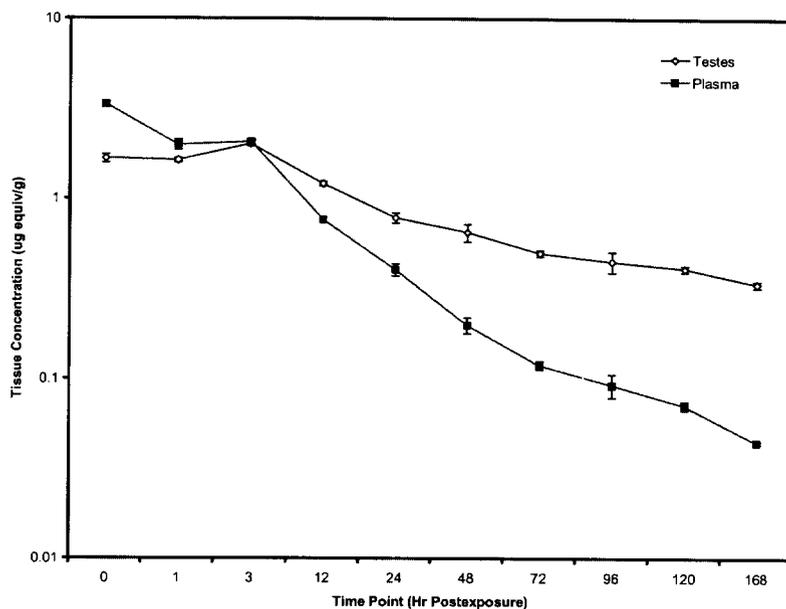


(A)

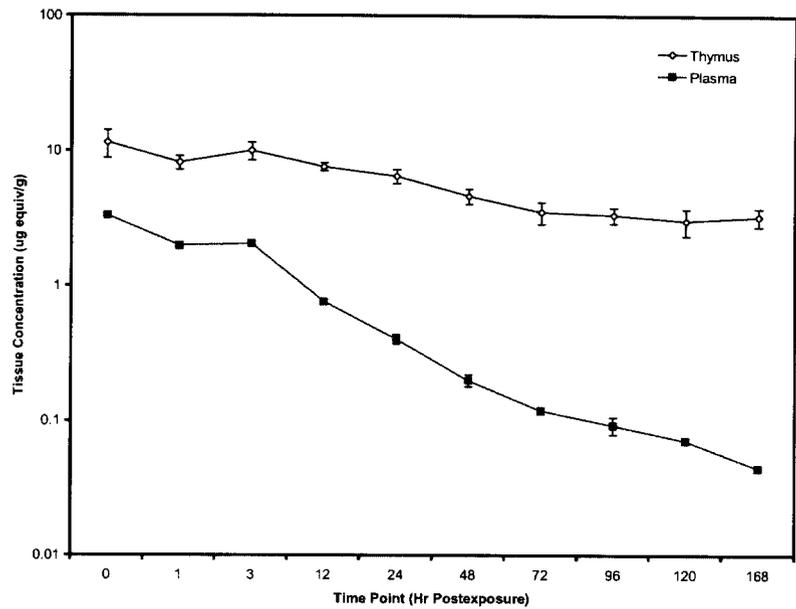


(B)

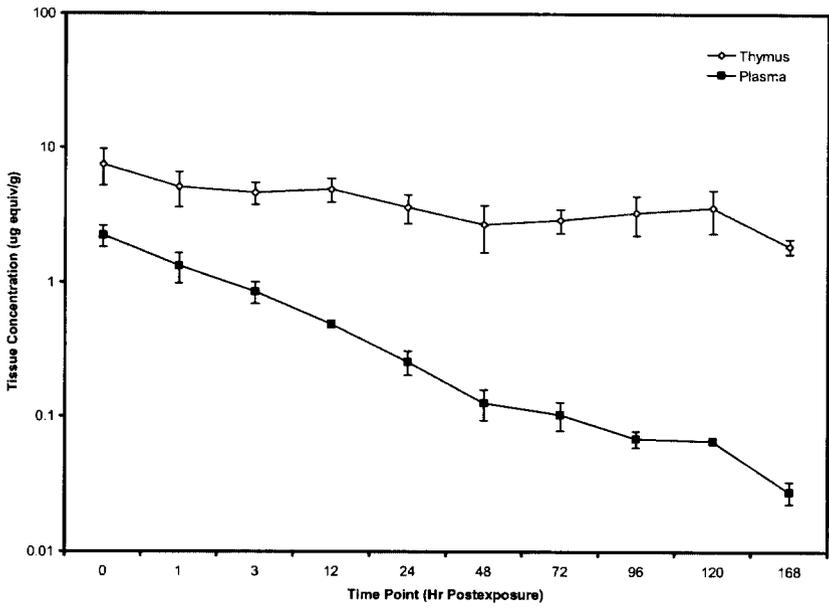
**Figure 32** Semilog Plots of Mean  $\pm$  Standard Error for Concentrations of Radioactivity in Stomach and Plasma from Male Rats (A) and Female Rats (B) Exposed to a Target  $D_5$  Concentration of 160 ppm.



**Figure 33** Semilog Plots of Mean  $\pm$  Standard Error for Concentrations of Radioactivity in Testes and Plasma from Male Rats Exposed to a Target  $D_5$  Concentration of 160 ppm.

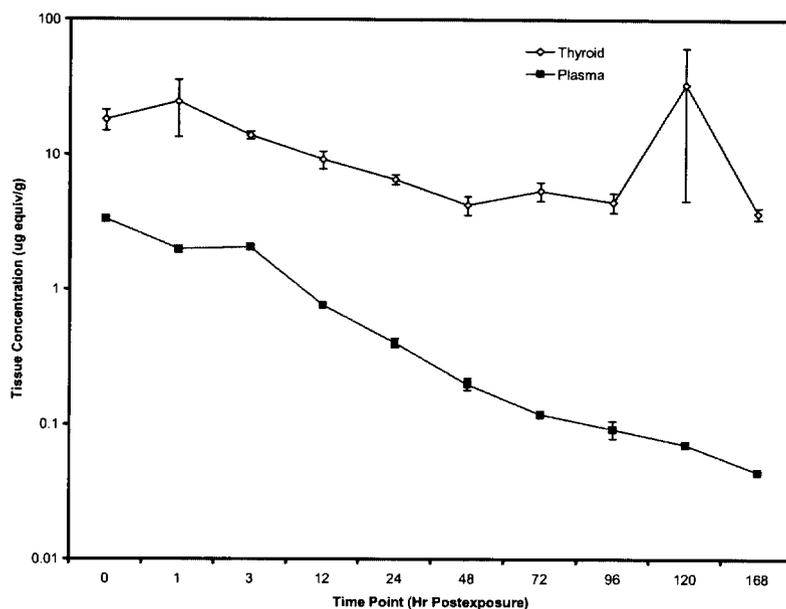


(A)

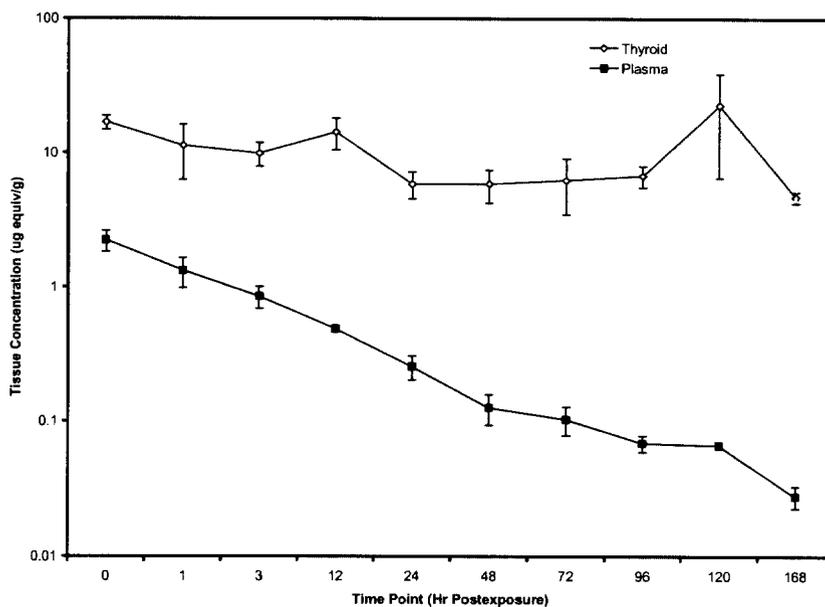


(B)

**Figure 34** Semilog Plots of Mean  $\pm$  Standard Error for Concentrations of Radioactivity in Thymus and Plasma from Male Rats (A) and Female Rats (B) Exposed to a Target  $D_5$  Concentration of 160 ppm.

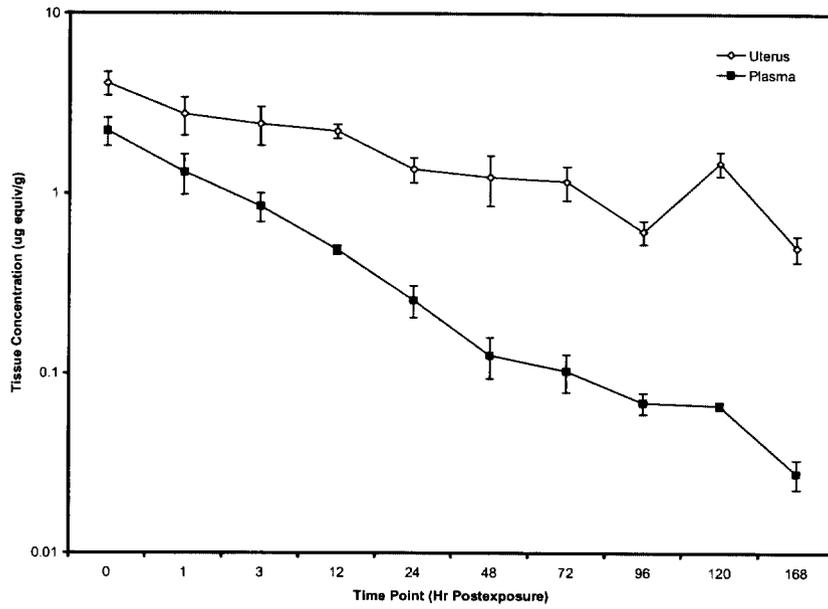


(A)

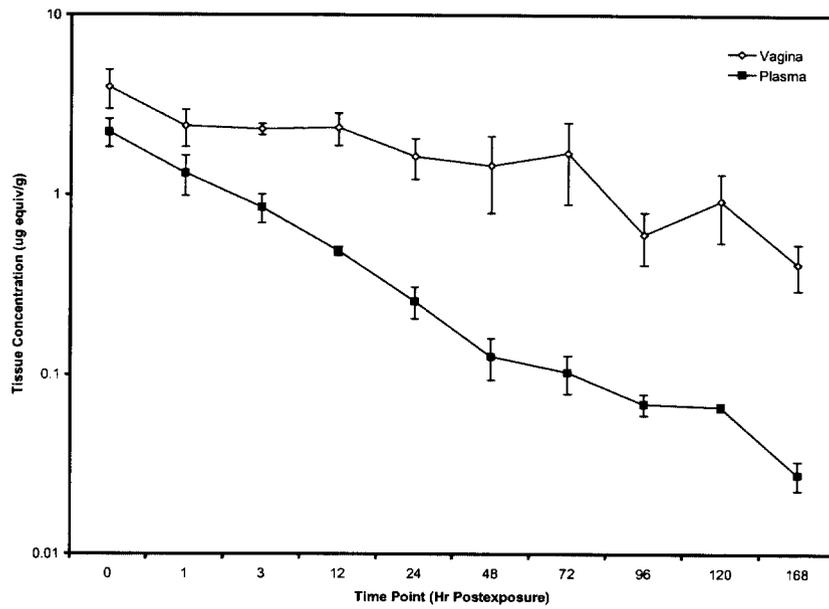


(B)

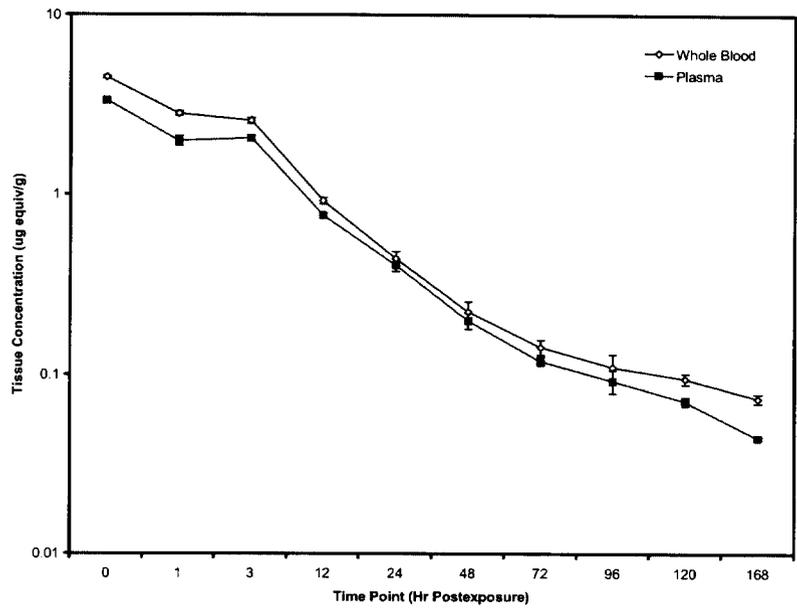
**Figure 35** Semilog Plots of Mean  $\pm$  Standard Error for Concentrations of Radioactivity in Thyroid and Plasma from Male Rats (A) and Female Rats (B) Exposed to a Target  $D_5$  Concentration of 160 ppm.



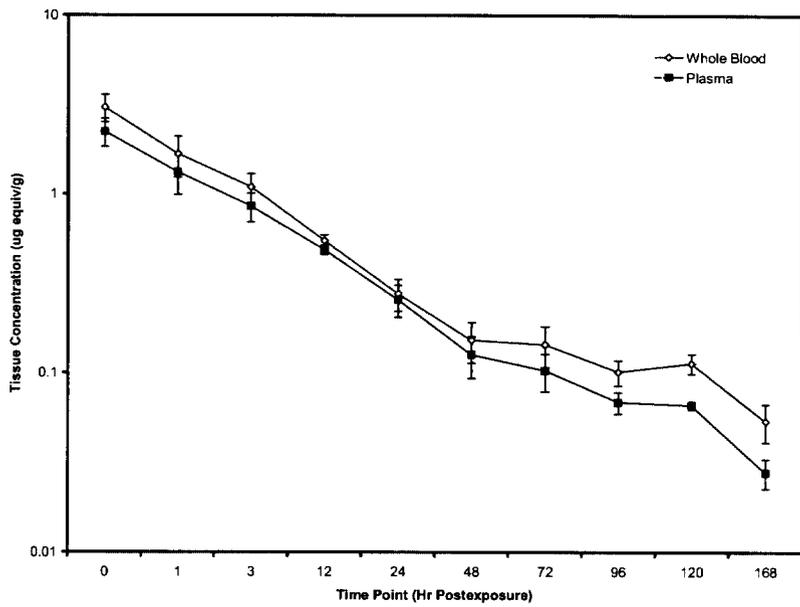
**Figure 36** Semilog Plots of Mean  $\pm$  Standard Error for Concentrations of Radioactivity in Uterus and Plasma from Female Rats Exposed to a Target  $D_5$  Concentration of 160 ppm.



**Figure 37** Semilog Plots of Mean  $\pm$  Standard Error for Concentrations of Radioactivity in Vagina and Plasma from Female Rats Exposed to a Target  $D_5$  Concentration of 160 ppm.

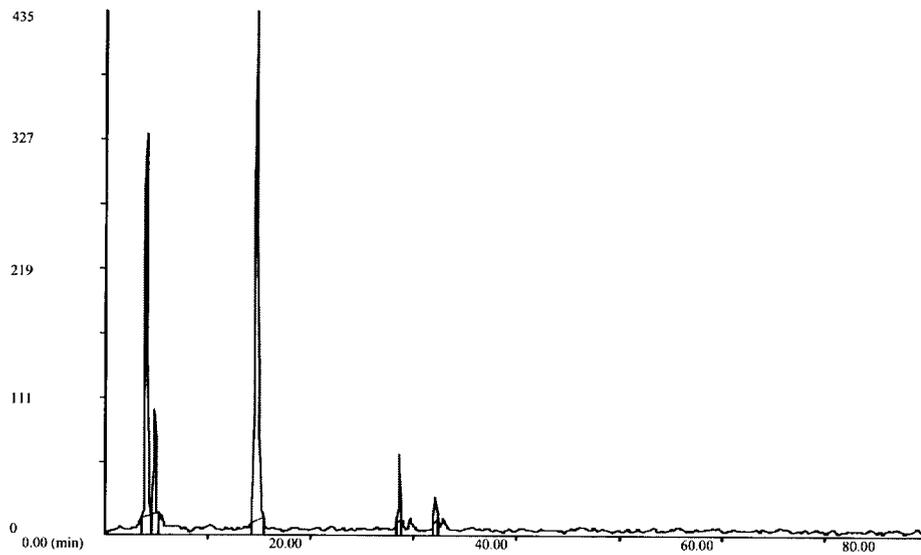


(A)

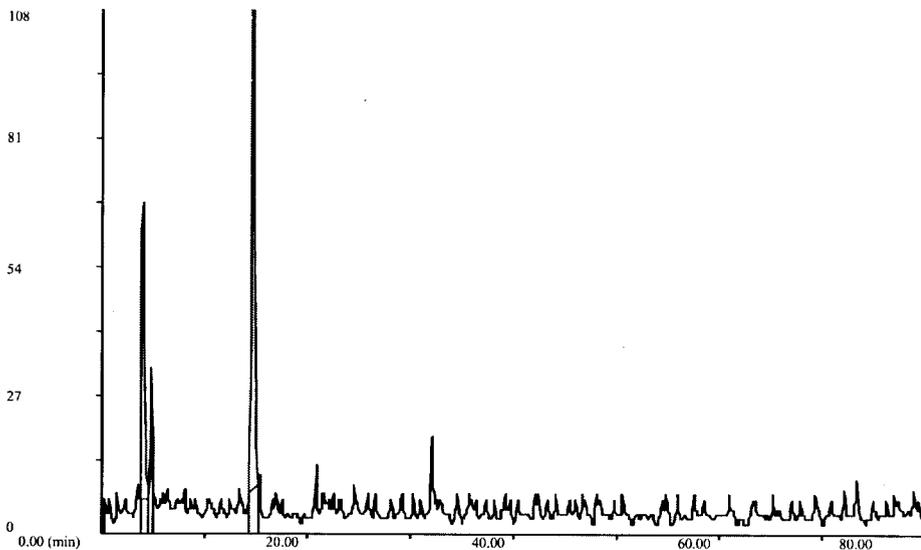


(B)

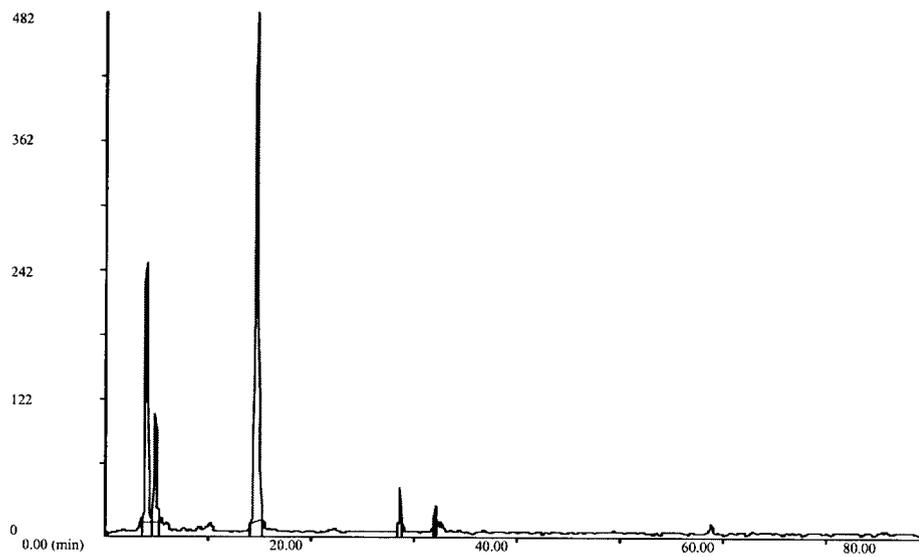
**Figure 38** Semilog Plots of Mean  $\pm$  Standard Error for Concentrations of Radioactivity in Whole Blood and Plasma from Male Rats (A) and Female Rats (B) Exposed to a Target  $D_5$  Concentration of 160 ppm.



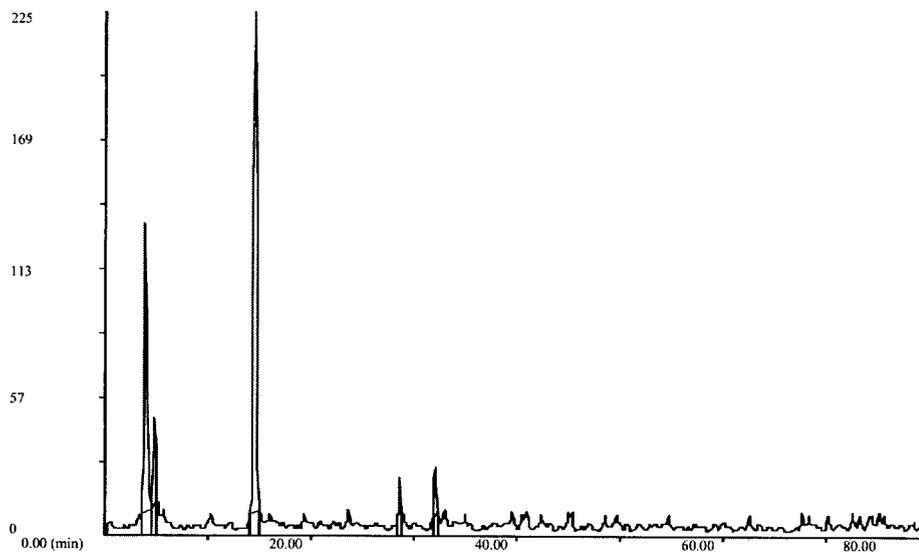
**Figure 39** HPLC Chromatogram of 12-hr Urine Sample from Male Rat 1050 Following a Single, Nose-Only, Vapor Inhalation Exposure to  $^{14}\text{C-D}_5$  at a Target  $\text{D}_5$  Concentration of 7 ppm (30752 dpm injected, chromatogram file reference MET0072, response is counts).



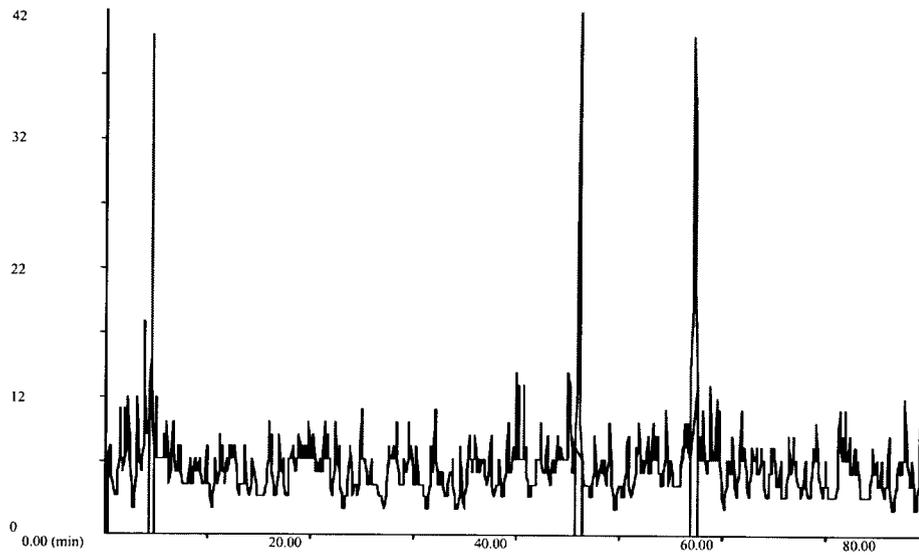
**Figure 40** HPLC Chromatogram of 12-hr Urine Sample from Female Rat 1550 Following a Single, Nose-Only, Vapor Inhalation Exposure to  $^{14}\text{C-D}_5$  at a Target  $\text{D}_5$  Concentration of 7 ppm (7448 dpm injected, chromatogram file reference MET0097, response is counts).



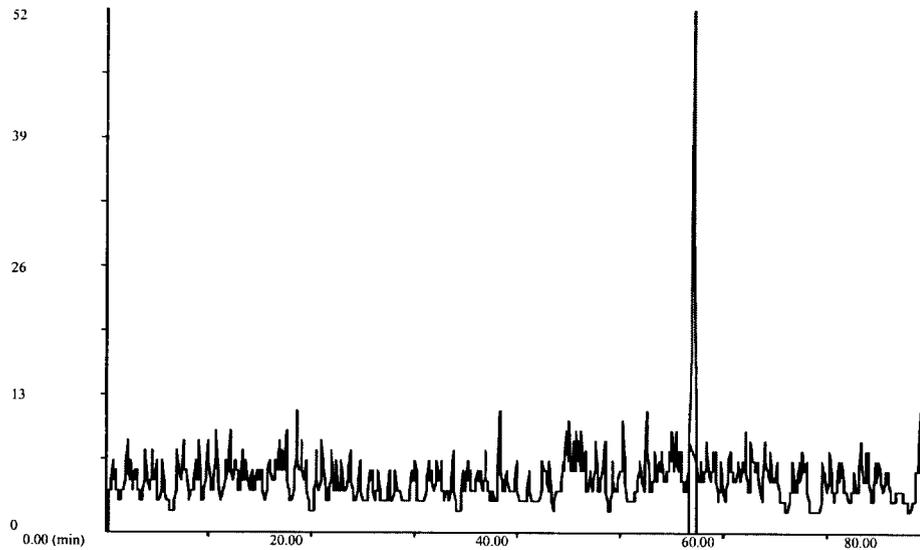
**Figure 41** HPLC Chromatogram of 12-hr Urine Sample from Male Rat 2050 Following a Single, Nose-Only, Vapor Inhalation Exposure to  $^{14}\text{C-D}_5$  at a Target  $\text{D}_5$  Concentration of 160 ppm (33497 dpm injected, chromatogram file reference MET0133, response is counts).



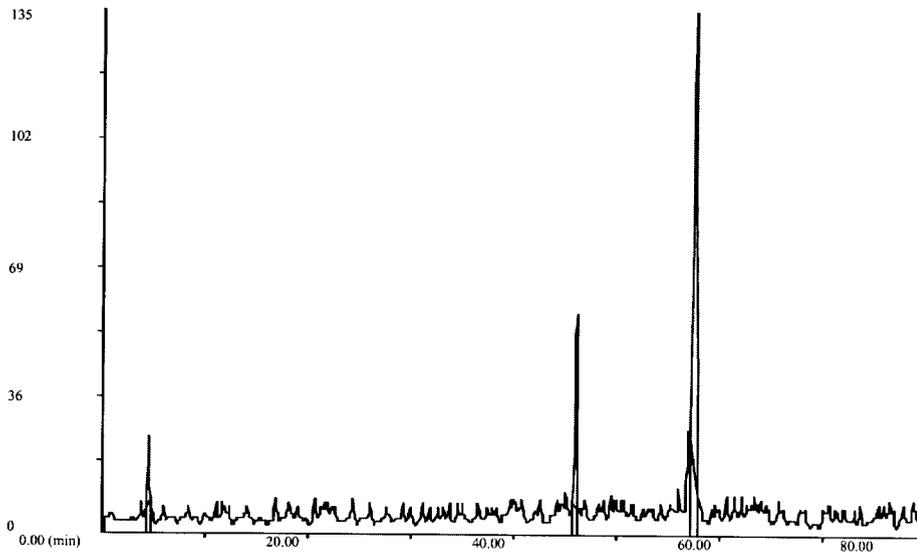
**Figure 42** HPLC Chromatogram of 12-hr Urine Sample from Female Rat 2550 Following a Single, Nose-Only, Vapor Inhalation Exposure to  $^{14}\text{C-D}_5$  at a Target  $\text{D}_5$  Concentration of 160 ppm (15184 dpm injected, chromatogram file reference MET0141, response is counts).



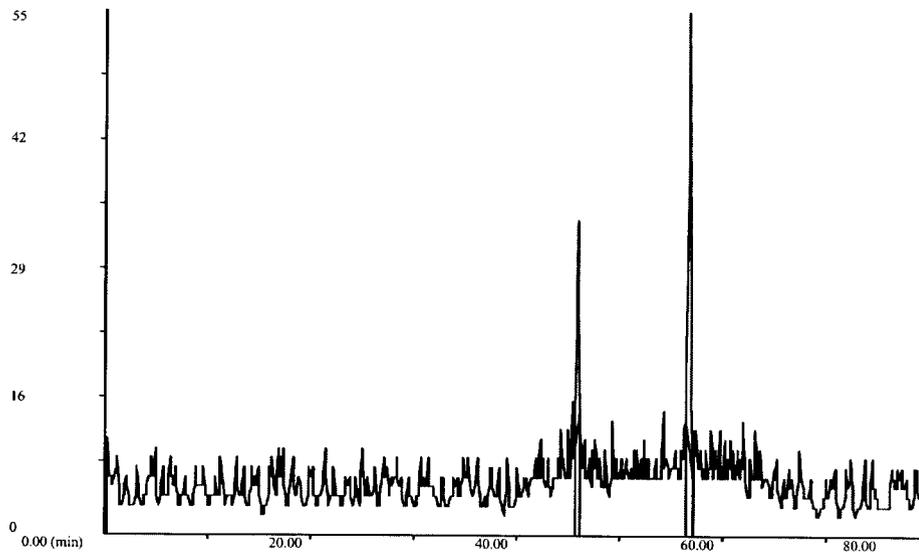
**Figure 43** HPLC Chromatogram of 12-hr Feces Extract Sample from Male Rat 1050 Following a Single, Nose-Only, Vapor Inhalation Exposure to  $^{14}\text{C-D}_5$  at a Target  $\text{D}_5$  Concentration of 7 ppm (4947 dpm injected, chromatogram file reference MET0280, response is counts).



**Figure 44** HPLC Chromatogram of 12-hr Feces Extract Sample from Female Rat 1550 Following a Single, Nose-Only, Vapor Inhalation Exposure to  $^{14}\text{C-D}_5$  at a Target  $\text{D}_5$  Concentration of 7 ppm (2123 dpm injected, chromatogram file reference MET0284, response is counts).



**Figure 45** HPLC Chromatogram of 12-hr Feces Extract Sample from Male Rat 2050 Following a Single, Nose-Only, Vapor Inhalation Exposure to  $^{14}\text{C-D}_5$  at a Target  $\text{D}_5$  Concentration of 160 ppm (10161 dpm injected, chromatogram file reference MET0292, response is counts).



**Figure 46** HPLC Chromatogram of 12-hr Feces Extract Sample from Female Rat 2550 Following a Single, Nose-Only, Vapor Inhalation Exposure to  $^{14}\text{C-D}_5$  at a Target  $\text{D}_5$  Concentration of 160 ppm (6461 dpm injected, chromatogram file reference MET0300, response is counts).