

Experiment Number: 20407 - 01
Test Type: 90-DAY
Route: RESPIRATORY EXPOSURE NASAL
Species/Strain: RATS/Wistar Han

P04: NEOPLASMS BY INDIVIDUAL ANIMAL
Nanoscale material (Fullerene-C60 50 nanometers)
CAS Number: 99685-96-8

Date Report Requested: 02/05/2013
Time Report Requested: 07:56:27
First Dose M/F: 11/05/07 / 11/05/07
Lab: BNW

F2_RE

NTP Study Number: C20407
Lock Date: 02/24/2009
Cage Range: ALL
Date Range: ALL
Reasons For Removal: ALL
Removal Date Range: ALL
Treatment Groups: Include ALL
Study Gender: Both
TDMSE Version: 3.0.1.1_001
PWG Approval Date: NONE

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 Lab: BNW

DAY ON TEST		0	0	0	0	0	0	0	0	0	0
WISTAR HAN RATS MALE		0	0	0	0	0	0	0	0	0	0
		9	9	9	9	9	9	9	9	9	9
		0	0	0	0	0	0	0	0	0	0
	0 mg/m3										
ANIMAL ID		0	0	0	0	0	0	0	0	0	0
		0	0	0	0	0	0	0	0	0	0
		0	0	0	0	0	0	0	0	0	0
		0	0	0	0	0	0	0	0	1	0
		1	2	3	4	5	6	7	8	9	0
* TOTALS											

ALIMENTARY SYSTEM

Esophagus	+	+	+	+	+	+	+	+	+	+	10
Intestine Large, Cecum	+	+	+	+	+	+	+	+	+	+	10
Intestine Large, Colon	+	+	+	+	+	+	+	+	+	+	10
Intestine Large, Rectum	+	+	+	+	+	+	+	+	+	+	10
Intestine Small, Duodenum	+	+	+	+	+	+	+	+	+	+	10
Intestine Small, Ileum	+	+	+	+	+	+	+	+	+	+	10
Intestine Small, Jejunum	+	+	+	+	+	+	+	+	+	+	10
Liver	+	+	+	+	+	+	+	+	+	+	10
Pancreas	+	+	+	+	+	+	+	+	+	+	10
Salivary Glands	+	+	+	+	+	+	+	+	+	+	10
Stomach, Forestomach	+	+	+	+	+	+	+	+	+	+	10
Stomach, Glandular	+	+	+	+	+	+	+	+	+	+	10

CARDIOVASCULAR SYSTEM

Blood Vessel	+	+	+	+	+	+	+	+	+	+	10
Heart	+	+	+	+	+	+	+	+	+	+	10

* .. Total animals with tissue examined microscopically; Total animals with tumor
 + .. Tissue examined microscopically
 X .. Lesion present
 I .. Insufficient tissue

M .. Missing tissue
 A .. Autolysis precludes evaluation
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DAY ON TEST		0	0	0	0	0	0	0	0	0	0
WISTAR HAN RATS MALE		0	0	0	0	0	0	0	0	0	0
		9	9	9	9	9	9	9	9	9	9
		0	0	0	0	0	0	0	0	0	0
	0 mg/m3										
ANIMAL ID		0	0	0	0	0	0	0	0	0	0
		0	0	0	0	0	0	0	0	0	0
		0	0	0	0	0	0	0	0	0	0
		0	0	0	0	0	0	0	0	0	0
		1	2	3	4	5	6	7	8	9	0
* TOTALS											

ENDOCRINE SYSTEM

Adrenal Cortex	+	+	+	+	+	+	+	+	+	+	10
Adrenal Medulla	+	+	+	+	+	+	+	+	+	+	10
Islets, Pancreatic	+	+	+	+	+	+	+	+	+	+	10
Parathyroid Gland	+	+	+	+	+	+	+	+	+	+	10
Pituitary Gland	+	+	+	+	+	+	+	+	+	+	10
Thyroid Gland	+	+	+	+	+	+	+	+	+	+	10

GENERAL BODY SYSTEM

NONE

GENITAL SYSTEM

Epididymis	+	+	+	+	+	+	+	+	+	+	10
Preputial Gland	+	+	+	+	+	+	+	+	+	+	10
Prostate	+	+	+	+	+	+	+	+	+	+	10
Seminal Vesicle	+	+	+	+	+	+	+	+	+	+	10
Testes	+	+	+	+	+	+	+	+	+	+	10

HEMATOPOIETIC SYSTEM

* .. Total animals with tissue examined microscopically; Total animals with tumor
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WISTAR HAN RATS MALE 0 mg/m3	DAY ON TEST										* TOTALS
	0 9 0	0 9 0	0 9 0	0 9 0	0 9 0	0 9 0	0 9 0	0 9 0	0 9 0	0 9 0	
ANIMAL ID	0	0	0	0	0	0	0	0	0	0	
	0	0	0	0	0	0	0	0	0	0	
	0	0	0	0	0	0	0	0	0	0	
	0	0	0	0	0	0	0	0	0	1	
	1	2	3	4	5	6	7	8	9	0	
Bone Marrow	+	+	+	+	+	+	+	+	+	+	10
Lymph Node, Bronchial	+	+	+	+	+	+	+	+	+	+	10
Lymph Node, Mandibular	+	+	+	+	+	+	+	+	+	+	10
Lymph Node, Mediastinal	+	+	+	+	+	+	+	+	+	+	10
Lymph Node, Mesenteric	+	+	+	+	+	+	+	+	+	+	10
Spleen	+	+	+	+	+	+	+	+	+	+	10
Thymus	+	+	+	+	+	+	+	+	+	+	10
INTEGUMENTARY SYSTEM											
Mammary Gland	M	M	M	M	M	M	M	M	M	M	0
Skin	+	+	+	M	+	+	+	+	+	+	9
MUSCULOSKELETAL SYSTEM											
Bone	+	+	+	+	+	+	+	+	+	+	10
NERVOUS SYSTEM											
Brain	+	+	+	+	+	+	+	+	+	+	10
RESPIRATORY SYSTEM											
Larynx	+	+	+	+	+	+	+	+	+	+	10

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WISTAR HAN RATS MALE	DAY ON TEST										* TOTALS
	0	0	0	0	0	0	0	0	0	0	
0 mg/m3	9	9	9	9	9	9	9	9	9	9	
	0	0	0	0	0	0	0	0	0	0	
	ANIMAL ID										
	0	0	0	0	0	0	0	0	0	0	
	0	0	0	0	0	0	0	0	0	0	
	0	0	0	0	0	0	0	0	0	1	
	1	2	3	4	5	6	7	8	9	0	
Lung	+	+	+	+	+	+	+	+	+	+	10
Nose	+	+	+	+	+	+	+	+	+	+	10
Trachea	+	+	+	+	+	+	+	+	+	+	10
SPECIAL SENSES SYSTEM											
Eye	+	+	+	+	+	+	+	+	+	+	10
Harderian Gland	+	+	+	+	+	+	+	+	+	+	10
URINARY SYSTEM											
Kidney	+	+	+	+	+	+	+	+	+	+	10
Urinary Bladder	+	+	+	+	+	+	+	+	+	+	10
SYSTEMIC LESIONS											
Multiple Organ	+	+	+	+	+	+	+	+	+	+	10

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WISTAR HAN RATS MALE	DAY ON TEST	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
		9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9
		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0.5 mg/m3	ANIMAL ID	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
		2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
		1	2	3	4	5	6	7	8	9	0								
* TOTALS																			

ALIMENTARY SYSTEM

NONE

CARDIOVASCULAR SYSTEM

NONE

ENDOCRINE SYSTEM

NONE

GENERAL BODY SYSTEM

NONE

GENITAL SYSTEM

Epididymis	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	10
Testes	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	10

HEMATOPOIETIC SYSTEM

Lymph Node	+																		1
Lymph Node, Bronchial	+	+	+	I	+	+	+	+	+	+	+	+	+	+	+	+	+	+	9
Lymph Node, Mediastinal	+	+	+	+	+	+	+	+	M	+	M								8

INTEGUMENTARY SYSTEM

* .. Total animals with tissue examined microscopically; Total animals with tumor
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WISTAR HAN RATS MALE	DAY ON TEST	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
		9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9
		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0.5 mg/m3	ANIMAL ID	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
		2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
		1	2	3	4	5	6	7	8	9	0									
* TOTALS																				

NONE

MUSCULOSKELETAL SYSTEM

NONE

NERVOUS SYSTEM

NONE

RESPIRATORY SYSTEM

Lung + + + + + + + + + + 10

SPECIAL SENSES SYSTEM

NONE

URINARY SYSTEM

Kidney + + + + + + + + + + 10

SYSTEMIC LESIONS

Multiple Organ + + + + + + + + + + 10

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DAY ON TEST		0	0	0	0	0	0	0	0	0	0
WISTAR HAN RATS MALE		0	0	0	0	0	0	0	0	0	0
		9	9	9	9	9	9	9	9	9	9
		0	0	0	0	0	0	0	0	0	0
	2.0 mg/m3										
ANIMAL ID		0	0	0	0	0	0	0	0	0	
		0	0	0	0	0	0	0	0	0	
		4	4	4	4	4	4	4	4	4	
		0	0	0	0	0	0	0	0	1	
		1	2	3	4	5	6	7	8	9	0
* TOTALS											

ALIMENTARY SYSTEM

Esophagus	+	+	+	+	+	+	+	+	+	+	10
Intestine Large, Cecum	+	+	+	+	+	+	+	+	+	+	10
Intestine Large, Colon	+	+	+	+	+	+	+	+	+	+	10
Intestine Large, Rectum	+	+	+	+	+	+	+	+	+	+	10
Intestine Small, Duodenum	+	+	+	+	+	+	+	+	+	+	10
Intestine Small, Ileum	+	+	+	+	+	+	+	+	+	+	10
Intestine Small, Jejunum	+	+	+	+	+	+	+	+	+	+	10
Liver	+	+	+	+	+	+	+	+	+	+	10
Pancreas	+	+	+	+	+	+	+	+	+	+	10
Salivary Glands	+	+	+	+	+	+	+	+	+	+	10
Stomach, Forestomach	+	+	+	+	+	+	+	+	+	+	10
Stomach, Glandular	+	+	+	+	+	+	+	+	+	+	10

CARDIOVASCULAR SYSTEM

Blood Vessel	+	+	+	+	+	+	+	+	+	+	10
Heart	+	+	+	+	+	+	+	+	+	+	10

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DAY ON TEST		0	0	0	0	0	0	0	0	0	0
WISTAR HAN RATS MALE		0	0	0	0	0	0	0	0	0	0
		9	9	9	9	9	9	9	9	9	9
		0	0	0	0	0	0	0	0	0	0
	2.0 mg/m3										
ANIMAL ID		0	0	0	0	0	0	0	0	0	
		0	0	0	0	0	0	0	0	0	
		4	4	4	4	4	4	4	4	4	
		0	0	0	0	0	0	0	0	1	
		1	2	3	4	5	6	7	8	9	0
* TOTALS											

ENDOCRINE SYSTEM

Adrenal Cortex	+	+	+	+	+	+	+	+	+	+	10
Adrenal Medulla	+	+	+	+	+	+	+	+	+	+	10
Islets, Pancreatic	+	+	+	+	+	+	+	+	+	+	10
Parathyroid Gland	M	+	+	+	+	+	+	+	+	+	9
Pituitary Gland	+	+	+	+	+	+	+	+	+	+	10
Thyroid Gland	+	+	+	+	+	+	+	+	+	+	10

GENERAL BODY SYSTEM

NONE

GENITAL SYSTEM

Epididymis	+	+	+	+	+	+	+	+	+	+	10
Preputial Gland	+	+	+	+	+	+	+	+	+	+	10
Prostate	+	+	+	+	+	+	+	+	+	+	10
Seminal Vesicle	+	+	+	+	+	+	+	+	+	+	10
Testes	+	+	+	+	+	+	+	+	+	+	10

HEMATOPOIETIC SYSTEM

* .. Total animals with tissue examined microscopically; Total animals with tumor
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WISTAR HAN RATS MALE 2.0 mg/m3	DAY ON TEST										* TOTALS
	0 9 0	0 9 0	0 9 0	0 9 0	0 9 0	0 9 0	0 9 0	0 9 0	0 9 0	0 9 0	
	ANIMAL ID										
	0 4 0 1	0 4 0 2	0 4 0 3	0 4 0 4	0 4 0 5	0 4 0 6	0 4 0 7	0 4 0 8	0 4 0 9	0 4 0 0	
Bone Marrow	+	+	+	+	+	+	+	+	+	+	10
Lymph Node, Bronchial	+	+	+	+	+	+	+	+	+	+	10
Lymph Node, Mandibular	+	+	+	+	+	+	+	+	+	+	10
Lymph Node, Mediastinal	+	+	+	+	+	+	+	+	+	+	10
Lymph Node, Mesenteric	+	+	+	+	+	+	+	+	+	+	10
Spleen	+	+	+	+	+	+	+	+	+	+	10
Thymus	+	+	+	+	+	+	+	+	+	+	10
INTEGUMENTARY SYSTEM											
Mammary Gland	+	M	M	M	M	M	M	M	M	M	1
Skin	+	+	+	+	+	+	+	+	+	+	10
MUSCULOSKELETAL SYSTEM											
Bone	+	+	+	+	+	+	+	+	+	+	10
NERVOUS SYSTEM											
Brain	+	+	+	+	+	+	+	+	+	+	10
RESPIRATORY SYSTEM											
Larynx	+	+	+	+	+	+	+	+	+	+	10

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WISTAR HAN RATS MALE 2.0 mg/m3	DAY ON TEST	0	0	0	0	0	0	0	0	0		
	ANIMAL ID	0	0	0	0	0	0	0	0	0		
		9	9	9	9	9	9	9	9	9		
		0	0	0	0	0	0	0	0	0		
		4	4	4	4	4	4	4	4	4		
		0	0	0	0	0	0	0	0	1		
		1	2	3	4	5	6	7	8	9	0	
											* TOTALS	
Lung		+	+	+	+	+	+	+	+	+	10	
Nose		+	+	+	+	+	+	+	+	+	10	
Trachea		+	+	+	+	+	+	+	+	+	10	
SPECIAL SENSES SYSTEM												
Eye		+	+	+	+	+	+	+	+	+	10	
Harderian Gland		+	+	+	+	+	+	+	+	+	10	
URINARY SYSTEM												
Kidney		+	+	+	+	+	+	+	+	+	10	
Urinary Bladder		+	+	+	+	+	+	+	+	+	10	
SYSTEMIC LESIONS												
Multiple Organ		+	+	+	+	+	+	+	+	+	10	

*** END OF MALE DATA ***

* .. Total animals with tissue examined microscopically; Total animals with tumor
 + .. Tissue examined microscopically
 X .. Lesion present
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DAY ON TEST		0	0	0	0	0	0	0	0	0	0
WISTAR HAN RATS FEMALE		0	0	0	0	0	0	0	0	0	0
		9	9	9	9	9	9	9	9	9	9
		0	0	0	0	0	0	0	0	0	0
	0 mg/m3										
ANIMAL ID		0	0	0	0	0	0	0	0	0	
		0	0	0	0	0	0	0	0	0	
		1	1	1	1	1	1	1	1	1	
		0	0	0	0	0	0	0	0	1	
		1	2	3	4	5	6	7	8	9	0
* TOTALS											

ALIMENTARY SYSTEM

Esophagus	+	+	+	+	+	+	+	+	+	+	10
Intestine Large, Cecum	+	+	+	+	+	+	+	+	+	+	10
Intestine Large, Colon	+	+	+	+	+	+	+	+	+	+	10
Intestine Large, Rectum	+	+	+	+	+	+	+	+	+	+	10
Intestine Small, Duodenum	+	+	+	+	+	+	+	+	+	+	10
Intestine Small, Ileum	+	+	+	+	+	+	+	+	+	+	10
Intestine Small, Jejunum	+	+	+	+	+	+	+	+	+	+	10
Liver	+	+	+	+	+	+	+	+	+	+	10
Pancreas	+	+	+	+	+	+	+	+	+	+	10
Salivary Glands	+	+	+	+	+	+	+	+	+	+	10
Stomach, Forestomach	+	+	+	+	+	+	+	+	+	+	10
Stomach, Glandular	+	+	+	+	+	+	+	+	+	+	10

CARDIOVASCULAR SYSTEM

Blood Vessel	+	+	+	+	+	+	+	+	+	+	10
Heart	+	+	+	+	+	+	+	+	+	+	10

* .. Total animals with tissue examined microscopically; Total animals with tumor
 + .. Tissue examined microscopically
 X .. Lesion present
 I .. Insufficient tissue

M .. Missing tissue
 A .. Autolysis precludes evaluation
 BLANK .. Not examined microscopically

Experiment Number: 20407 - 01
 Test Type: 90-DAY
 Route: RESPIRATORY EXPOSURE NASAL
 Species/Strain: RATS/Wistar Han

P04: NEOPLASMS BY INDIVIDUAL ANIMAL
 Nanoscale material (Fullerene-C60 50 nanometers)
 CAS Number: 99685-96-8

Date Report Requested: 02/05/2013
 Time Report Requested: 07:56:27
 First Dose M/F: 11/05/07 / 11/05/07
 Lab: BNW

DAY ON TEST		0	0	0	0	0	0	0	0	0	0
WISTAR HAN RATS FEMALE		0	0	0	0	0	0	0	0	0	0
		9	9	9	9	9	9	9	9	9	9
		0	0	0	0	0	0	0	0	0	0
	0 mg/m3										
ANIMAL ID		0	0	0	0	0	0	0	0	0	
		0	0	0	0	0	0	0	0	0	
		1	1	1	1	1	1	1	1	1	
		0	0	0	0	0	0	0	0	1	
		1	2	3	4	5	6	7	8	9	0
* TOTALS											

ENDOCRINE SYSTEM

Adrenal Cortex	+	+	+	+	+	+	+	+	+	+	10
Adrenal Medulla	+	+	+	+	+	+	+	+	+	+	10
Islets, Pancreatic	+	+	+	+	+	+	+	+	+	+	10
Parathyroid Gland	M	+	+	M	+	+	M	M	+	+	6
Pituitary Gland	+	+	+	+	+	+	+	+	+	+	10
Thyroid Gland	+	+	+	+	+	+	+	+	+	+	10

GENERAL BODY SYSTEM

NONE

GENITAL SYSTEM

Clitoral Gland	+	+	+	+	+	+	+	+	+	+	10
Ovary	+	+	+	+	+	+	+	+	+	+	10
Uterus	+	+	+	+	+	+	+	+	+	+	10

HEMATOPOIETIC SYSTEM

Bone Marrow	+	+	+	+	+	+	+	+	+	+	10
Lymph Node, Bronchial	+	+	+	+	+	+	+	+	+	+	10

* .. Total animals with tissue examined microscopically; Total animals with tumor
 + .. Tissue examined microscopically
 X .. Lesion present
 I .. Insufficient tissue

M .. Missing tissue
 A .. Autolysis precludes evaluation
 BLANK .. Not examined microscopically

Experiment Number: 20407 - 01
 Test Type: 90-DAY
 Route: RESPIRATORY EXPOSURE NASAL
 Species/Strain: RATS/Wistar Han

P04: NEOPLASMS BY INDIVIDUAL ANIMAL
 Nanoscale material (Fullerene-C60 50 nanometers)
 CAS Number: 99685-96-8

Date Report Requested: 02/05/2013
 Time Report Requested: 07:56:27
 First Dose M/F: 11/05/07 / 11/05/07
 Lab: BNW

WISTAR HAN RATS FEMALE 0 mg/m3	DAY ON TEST										* TOTALS
	0 9 0	0 9 0	0 9 0	0 9 0	0 9 0	0 9 0	0 9 0	0 9 0	0 9 0	0 9 0	
ANIMAL ID	0	0	0	0	0	0	0	0	0	0	
	0	0	0	0	0	0	0	0	0	0	
	1	1	1	1	1	1	1	1	1	1	
	0	0	0	0	0	0	0	0	0	1	
	1	2	3	4	5	6	7	8	9	0	
Lymph Node, Mandibular	+	+	+	+	+	+	+	+	+	+	10
Lymph Node, Mediastinal	+	+	+	+	+	+	+	+	I	M	8
Lymph Node, Mesenteric	+	+	+	+	+	+	+	+	+	+	10
Spleen	+	+	+	+	+	+	+	+	+	+	10
Thymus	+	+	+	+	+	+	+	+	+	+	10
INTEGUMENTARY SYSTEM											
Mammary Gland	+	+	+	+	+	+	+	+	+	+	10
Skin	+	+	+	+	+	+	+	+	+	+	10
MUSCULOSKELETAL SYSTEM											
Bone	+	+	+	+	+	+	+	+	+	+	10
NERVOUS SYSTEM											
Brain	+	+	+	+	+	+	+	+	+	+	10
RESPIRATORY SYSTEM											
Larynx	+	+	+	+	+	+	+	+	+	+	10
Lung	+	+	+	+	+	+	+	+	+	+	10
Nose	+	+	+	+	+	+	+	+	+	+	10

* .. Total animals with tissue examined microscopically; Total animals with tumor
 + .. Tissue examined microscopically
 X .. Lesion present
 I .. Insufficient tissue

M .. Missing tissue
 A .. Autolysis precludes evaluation
 BLANK .. Not examined microscopically

Experiment Number: 20407 - 01
 Test Type: 90-DAY
 Route: RESPIRATORY EXPOSURE NASAL
 Species/Strain: RATS/Wistar Han

P04: NEOPLASMS BY INDIVIDUAL ANIMAL
 Nanoscale material (Fullerene-C60 50 nanometers)
 CAS Number: 99685-96-8

Date Report Requested: 02/05/2013
 Time Report Requested: 07:56:27
 First Dose M/F: 11/05/07 / 11/05/07
 Lab: BNW

DAY ON TEST	0	0	0	0	0	0	0	0	0	0	
	9	9	9	9	9	9	9	9	9	9	
ANIMAL ID	0	0	0	0	0	0	0	0	0	0	
	1	1	1	1	1	1	1	1	1	1	
	0	0	0	0	0	0	0	0	0	1	
	1	2	3	4	5	6	7	8	9	0	* TOTALS
WISTAR HAN RATS FEMALE											
0 mg/m3											
Trachea	+	+	+	+	+	+	+	+	+	+	10
SPECIAL SENSES SYSTEM											
Eye	+	+	+	+	+	+	+	+	+	+	10
Harderian Gland	+	+	+	+	+	+	+	+	+	+	10
URINARY SYSTEM											
Kidney	+	+	+	+	+	+	+	+	+	+	10
Urinary Bladder	+	+	+	+	+	+	+	+	+	+	10
SYSTEMIC LESIONS											
Multiple Organ	+	+	+	+	+	+	+	+	+	+	10

* .. Total animals with tissue examined microscopically; Total animals with tumor
 + .. Tissue examined microscopically
 X .. Lesion present
 I .. Insufficient tissue

M .. Missing tissue
 A .. Autolysis precludes evaluation
 BLANK .. Not examined microscopically

Experiment Number: 20407 - 01
 Test Type: 90-DAY
 Route: RESPIRATORY EXPOSURE NASAL
 Species/Strain: RATS/Wistar Han

P04: NEOPLASMS BY INDIVIDUAL ANIMAL
 Nanoscale material (Fullerene-C60 50 nanometers)
 CAS Number: 99685-96-8

Date Report Requested: 02/05/2013
 Time Report Requested: 07:56:27
 First Dose M/F: 11/05/07 / 11/05/07
 Lab: BNW

WISTAR HAN RATS FEMALE	DAY ON TEST	0	0	0	0	0	0	0	0	0	
		0	0	0	0	0	0	0	0	0	
		9	9	9	9	9	9	9	9	9	
		0	0	0	0	0	0	0	0	0	
0.5 mg/m3	ANIMAL ID	0	0	0	0	0	0	0	0		
		0	0	0	0	0	0	0	0		
		3	3	3	3	3	3	3	3		
		0	0	0	0	0	0	0	0	1	
		1	2	3	4	5	6	7	8	9	
* TOTALS											

ALIMENTARY SYSTEM

NONE

CARDIOVASCULAR SYSTEM

NONE

ENDOCRINE SYSTEM

NONE

GENERAL BODY SYSTEM

NONE

GENITAL SYSTEM

NONE

HEMATOPOIETIC SYSTEM

Lymph Node, Bronchial	+	+	+	+	+	+	+	+	+	+	10
Lymph Node, Mediastinal	M	+	+	+	+	+	+	+	+	I	8

INTEGUMENTARY SYSTEM

NONE

MUSCULOSKELETAL SYSTEM

* .. Total animals with tissue examined microscopically; Total animals with tumor
 + .. Tissue examined microscopically
 X .. Lesion present
 I .. Insufficient tissue

M .. Missing tissue
 A .. Autolysis precludes evaluation
 BLANK .. Not examined microscopically

Experiment Number: 20407 - 01
 Test Type: 90-DAY
 Route: RESPIRATORY EXPOSURE NASAL
 Species/Strain: RATS/Wistar Han

P04: NEOPLASMS BY INDIVIDUAL ANIMAL
 Nanoscale material (Fullerene-C60 50 nanometers)
 CAS Number: 99685-96-8

Date Report Requested: 02/05/2013
 Time Report Requested: 07:56:27
 First Dose M/F: 11/05/07 / 11/05/07
 Lab: BNW

WISTAR HAN RATS FEMALE	DAY ON TEST	0	0	0	0	0	0	0	0	0	
		0	0	0	0	0	0	0	0	0	
		9	9	9	9	9	9	9	9	9	
		0	0	0	0	0	0	0	0	0	
0.5 mg/m3	ANIMAL ID	0	0	0	0	0	0	0	0	0	
		0	0	0	0	0	0	0	0	0	
		3	3	3	3	3	3	3	3	3	
		0	0	0	0	0	0	0	0	1	
		1	2	3	4	5	6	7	8	9	0
* TOTALS											

NONE

NERVOUS SYSTEM

NONE

RESPIRATORY SYSTEM

Lung + + + + + + + + + +

10

SPECIAL SENSES SYSTEM

NONE

URINARY SYSTEM

Kidney + + + + + + + + + +

10

SYSTEMIC LESIONS

Multiple Organ + + + + + + + + + +

10

* .. Total animals with tissue examined microscopically; Total animals with tumor
 + .. Tissue examined microscopically
 X .. Lesion present
 I .. Insufficient tissue

M .. Missing tissue
 A .. Autolysis precludes evaluation
 BLANK .. Not examined microscopically

Experiment Number: 20407 - 01
 Test Type: 90-DAY
 Route: RESPIRATORY EXPOSURE NASAL
 Species/Strain: RATS/Wistar Han

P04: NEOPLASMS BY INDIVIDUAL ANIMAL
 Nanoscale material (Fullerene-C60 50 nanometers)
 CAS Number: 99685-96-8

Date Report Requested: 02/05/2013
 Time Report Requested: 07:56:27
 First Dose M/F: 11/05/07 / 11/05/07
 Lab: BNW

DAY ON TEST		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
WISTAR HAN RATS FEMALE		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
		9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9
		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	2.0 mg/m3																			
ANIMAL ID		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
		5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5
		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
		1	2	3	4	5	6	7	8	9	0									
* TOTALS																				

ALIMENTARY SYSTEM

Esophagus	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	10
Intestine Large, Cecum	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	10
Intestine Large, Colon	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	10
Intestine Large, Rectum	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	10
Intestine Small, Duodenum	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	10
Intestine Small, Ileum	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	10
Intestine Small, Jejunum	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	10
Liver	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	10
Pancreas	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	10
Salivary Glands	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	10
Stomach, Forestomach	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	10
Stomach, Glandular	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	10

CARDIOVASCULAR SYSTEM

Blood Vessel	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	10
Heart	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	10

* .. Total animals with tissue examined microscopically; Total animals with tumor
 + .. Tissue examined microscopically
 X .. Lesion present
 I .. Insufficient tissue

M .. Missing tissue
 A .. Autolysis precludes evaluation
 BLANK .. Not examined microscopically

Experiment Number: 20407 - 01
 Test Type: 90-DAY
 Route: RESPIRATORY EXPOSURE NASAL
 Species/Strain: RATS/Wistar Han

P04: NEOPLASMS BY INDIVIDUAL ANIMAL
 Nanoscale material (Fullerene-C60 50 nanometers)
 CAS Number: 99685-96-8

Date Report Requested: 02/05/2013
 Time Report Requested: 07:56:27
 First Dose M/F: 11/05/07 / 11/05/07
 Lab: BNW

DAY ON TEST		0	0	0	0	0	0	0	0	0	0
WISTAR HAN RATS FEMALE		0	0	0	0	0	0	0	0	0	0
		9	9	9	9	9	9	9	9	9	9
		0	0	0	0	0	0	0	0	0	0
	2.0 mg/m3										
ANIMAL ID		0	0	0	0	0	0	0	0	0	
		0	0	0	0	0	0	0	0	0	
		5	5	5	5	5	5	5	5	5	
		0	0	0	0	0	0	0	0	1	
		1	2	3	4	5	6	7	8	9	0
* TOTALS											

ENDOCRINE SYSTEM

Adrenal Cortex	+	+	+	+	+	+	+	+	+	+	10
Adrenal Medulla	+	+	+	+	+	+	+	+	+	+	10
Islets, Pancreatic	+	+	+	+	+	+	+	+	+	+	10
Parathyroid Gland	+	+	+	+	M	M	M	+	M	+	6
Pituitary Gland	+	+	+	+	+	+	+	+	+	+	10
Thyroid Gland	+	+	+	+	+	+	+	+	+	+	10

GENERAL BODY SYSTEM

NONE

GENITAL SYSTEM

Clitoral Gland	+	+	+	+	+	+	+	+	+	+	10
Ovary	+	+	+	+	+	+	+	+	+	+	10
Uterus	+	+	+	+	+	+	+	+	+	+	10

HEMATOPOIETIC SYSTEM

Bone Marrow	+	+	+	+	+	+	+	+	+	+	10
Lymph Node, Bronchial	+	+	+	+	+	+	+	+	+	+	10

* .. Total animals with tissue examined microscopically; Total animals with tumor
 + .. Tissue examined microscopically
 X .. Lesion present
 I .. Insufficient tissue

M .. Missing tissue
 A .. Autolysis precludes evaluation
 BLANK .. Not examined microscopically

Experiment Number: 20407 - 01
 Test Type: 90-DAY
 Route: RESPIRATORY EXPOSURE NASAL
 Species/Strain: RATS/Wistar Han

P04: NEOPLASMS BY INDIVIDUAL ANIMAL
 Nanoscale material (Fullerene-C60 50 nanometers)
 CAS Number: 99685-96-8

Date Report Requested: 02/05/2013
 Time Report Requested: 07:56:27
 First Dose M/F: 11/05/07 / 11/05/07
 Lab: BNW

DAY ON TEST	0	0	0	0	0	0	0	0	0	0	
	9	9	9	9	9	9	9	9	9	9	
ANIMAL ID	0	0	0	0	0	0	0	0	0	0	
	5	5	5	5	5	5	5	5	5	5	
	0	0	0	0	0	0	0	0	0	1	
	1	2	3	4	5	6	7	8	9	0	* TOTALS
WISTAR HAN RATS FEMALE											
2.0 mg/m3											
Lymph Node, Mandibular	+	+	+	+	+	+	+	+	+	+	10
Lymph Node, Mediastinal	+	+	+	+	+	+	+	+	+	+	10
Lymph Node, Mesenteric	+	+	+	+	+	+	+	+	+	+	10
Spleen	+	+	+	+	+	+	+	+	+	+	10
Thymus	+	+	+	+	+	+	+	+	+	+	10
INTEGUMENTARY SYSTEM											
Mammary Gland	+	+	+	+	+	+	+	+	+	+	10
Skin	+	+	+	+	+	+	+	+	+	+	10
MUSCULOSKELETAL SYSTEM											
Bone	+	+	+	+	+	+	+	+	+	+	10
NERVOUS SYSTEM											
Brain	+	+	+	+	+	+	+	+	+	+	10
RESPIRATORY SYSTEM											
Larynx	+	+	+	+	+	+	+	+	+	+	10
Lung	+	+	+	+	+	+	+	+	+	+	10
Nose	+	+	+	+	+	+	+	+	+	+	10

* .. Total animals with tissue examined microscopically; Total animals with tumor
 + .. Tissue examined microscopically
 X .. Lesion present
 I .. Insufficient tissue

M .. Missing tissue
 A .. Autolysis precludes evaluation
 BLANK .. Not examined microscopically

Experiment Number: 20407 - 01
 Test Type: 90-DAY
 Route: RESPIRATORY EXPOSURE NASAL
 Species/Strain: RATS/Wistar Han

P04: NEOPLASMS BY INDIVIDUAL ANIMAL
 Nanoscale material (Fullerene-C60 50 nanometers)
 CAS Number: 99685-96-8

Date Report Requested: 02/05/2013
 Time Report Requested: 07:56:27
 First Dose M/F: 11/05/07 / 11/05/07
 Lab: BNW

DAY ON TEST	0	0	0	0	0	0	0	0	0	0	
	9	9	9	9	9	9	9	9	9	9	
ANIMAL ID	0	0	0	0	0	0	0	0	0	0	
	5	5	5	5	5	5	5	5	5	5	
	0	0	0	0	0	0	0	0	0	1	
	1	2	3	4	5	6	7	8	9	0	* TOTALS
WISTAR HAN RATS FEMALE											
2.0 mg/m3											
Trachea	+	+	+	+	+	+	+	+	+	+	10
SPECIAL SENSES SYSTEM											
Eye	+	+	+	+	+	+	+	+	+	+	10
Harderian Gland	+	+	+	+	+	+	+	+	+	+	10
URINARY SYSTEM											
Kidney	+	+	+	+	+	+	+	+	+	+	10
Urinary Bladder	+	+	+	+	+	+	+	+	+	+	10
SYSTEMIC LESIONS											
Multiple Organ	+	+	+	+	+	+	+	+	+	+	10

*** END OF REPORT ***

* .. Total animals with tissue examined microscopically; Total animals with tumor
 + .. Tissue examined microscopically
 X .. Lesion present
 I .. Insufficient tissue

M .. Missing tissue
 A .. Autolysis precludes evaluation
 BLANK .. Not examined microscopically