

**Experiment Number:** 20701 - 01  
**Test Type:** 90-DAY  
**Route:** RESPIRATORY EXPOSURE NASAL  
**Species/Strain:** RATS/Wistar Han

**P03: INCIDENCE RATES OF NON-NEOPLASTIC LESIONS BY ANATOMIC SITE(a)**  
Nanoscale material (Fullerene-C60 1 micron)  
**CAS Number:** 99685-96-8

**Date Report Requested:** 02/22/2013  
**Time Report Requested:** 07:58:31  
**First Dose M/F:** 11/05/07 / 11/05/07  
**Lab:** BNW

F2\_Rev.1\_RE

**NTP Study Number:** C20701  
**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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Wistar Han RATS MALE	0 mg/m3	2 mg/m3	15 mg/m3	30 mg/m3
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### Disposition Summary

Animals Initially In Study	10	10	10	10
Early Deaths				
Survivors				
Terminal Sacrifice	10	10	10	10
Animals Examined Microscopically	10	10	10	10

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### ALIMENTARY SYSTEM

Esophagus	(10)	(0)	(0)	(10)
Intestine Large, Cecum	(10)	(0)	(0)	(10)
Intestine Large, Colon	(10)	(0)	(0)	(10)
Intestine Large, Rectum	(10)	(0)	(0)	(10)
Intestine Small, Duodenum	(10)	(0)	(0)	(10)
Intestine Small, Ileum	(10)	(0)	(0)	(10)
Intestine Small, Jejunum	(10)	(0)	(0)	(10)
Liver	(10)	(1)	(0)	(10)
Inflammation, Chronic		1 (100%)		
Inflammation, Chronic Active				1 (10%)
Pancreas	(10)	(0)	(0)	(10)
Salivary Glands	(10)	(0)	(0)	(10)
Stomach, Forestomach	(10)	(0)	(0)	(10)
Stomach, Glandular	(10)	(0)	(0)	(10)

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### CARDIOVASCULAR SYSTEM

Blood Vessel	(10)	(0)	(0)	(10)
Heart	(10)	(0)	(0)	(10)
Cardiomyopathy	1 (10%)			1 (10%)

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### ENDOCRINE SYSTEM

Adrenal Cortex	(10)	(0)	(0)	(10)
Adrenal Medulla	(10)	(0)	(0)	(10)

a - Number of animals examined microscopically at site and number of animals with lesion

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Wistar Han RATS MALE	0 mg/m3	2 mg/m3	15 mg/m3	30 mg/m3
Islets, Pancreatic	(10)	(0)	(0)	(10)
Parathyroid Gland	(9)	(0)	(0)	(7)
Pituitary Gland	(10)	(0)	(0)	(10)
Thyroid Gland	(10)	(0)	(0)	(10)

GENERAL BODY SYSTEM

None

GENITAL SYSTEM

Epididymis	(10)	(10)	(10)	(10)
Hypospermia			1 (10%)	
Preputial Gland	(10)	(0)	(0)	(10)
Inflammation, Chronic Active	3 (30%)			5 (50%)
Prostate	(10)	(0)	(0)	(10)
Inflammation, Chronic				1 (10%)
Seminal Vesicle	(10)	(0)	(0)	(10)
Testes	(10)	(10)	(10)	(10)
Germinal Epithelium, Degeneration		1 (10%)	3 (30%)	1 (10%)
Interstitial Cell, Hyperplasia			1 (10%)	

HEMATOPOIETIC SYSTEM

Bone Marrow	(10)	(0)	(0)	(10)
Lymph Node, Bronchial	(7)	(5)	(6)	(8)
Pigmentation		1 (20%)	3 (50%)	7 (88%)
Lymph Node, Mandibular	(10)	(0)	(0)	(10)
Lymph Node, Mediastinal	(8)	(9)	(8)	(9)
Pigmentation	4 (50%)	4 (44%)	3 (38%)	5 (56%)
Lymph Node, Mesenteric	(10)	(0)	(0)	(10)
Spleen	(10)	(0)	(0)	(10)
Thymus	(10)	(0)	(0)	(10)

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Wistar Han RATS MALE	0 mg/m3	2 mg/m3	15 mg/m3	30 mg/m3
<b>INTEGUMENTARY SYSTEM</b>				
Mammary Gland	(5)	(0)	(0)	(3)
Skin	(10)	(0)	(0)	(9)
<b>MUSCULOSKELETAL SYSTEM</b>				
Bone	(10)	(0)	(0)	(10)
<b>NERVOUS SYSTEM</b>				
Brain	(10)	(0)	(0)	(10)
<b>RESPIRATORY SYSTEM</b>				
Larynx	(10)	(0)	(0)	(10)
Lung	(10)	(10)	(9)	(10)
Congestion		1 (10%)		
Hemorrhage		1 (10%)	1 (11%)	3 (30%)
Infiltration Cellular, Histiocyte	1 (10%)	1 (10%)	8 (89%)	10 (100%)
Inflammation, Chronic Active	1 (10%)	4 (40%)	8 (89%)	10 (100%)
Pigmentation		1 (10%)	8 (89%)	10 (100%)
Nose	(10)	(0)	(0)	(10)
Goblet Cell, Hyperplasia				1 (10%)
Trachea	(10)	(0)	(0)	(10)
<b>SPECIAL SENSES SYSTEM</b>				
Eye	(10)	(0)	(0)	(10)
Inflammation, Chronic Active				1 (10%)
Harderian Gland	(10)	(0)	(0)	(10)
Inflammation, Chronic Active	2 (20%)			

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Wistar Han RATS MALE	0 mg/m3	2 mg/m3	15 mg/m3	30 mg/m3
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URINARY SYSTEM				
Kidney	(10)	(0)	(0)	(10)
Infarct	1 (10%)			
Nephropathy				2 (20%)
Pelvis, Dilatation				1 (10%)
Urinary Bladder	(10)	(0)	(0)	(10)

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\*\*\* END OF MALE \*\*\*

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Wistar Han RATS FEMALE	0 mg/m3	2 mg/m3	15 mg/m3	30 mg/m3
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### Disposition Summary

Animals Initially In Study	10	10	10	10
Early Deaths				
Moribund Sacrifice		1		
Survivors				
Terminal Sacrifice	10	9	10	10
Animals Examined Microscopically	10	10	10	10

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### ALIMENTARY SYSTEM

Esophagus	(10)	(1)	(0)	(10)
Intestine Large, Cecum	(10)	(1)	(0)	(10)
Intestine Large, Colon	(10)	(1)	(0)	(10)
Intestine Large, Rectum	(10)	(1)	(0)	(10)
Intestine Small, Duodenum	(10)	(1)	(0)	(10)
Intestine Small, Ileum	(10)	(1)	(0)	(10)
Intestine Small, Jejunum	(10)	(1)	(0)	(10)
Liver	(10)	(1)	(0)	(10)
Hepatocyte, Pigmentation				1 (10%)
Pancreas	(10)	(1)	(0)	(10)
Salivary Glands	(10)	(1)	(0)	(10)
Stomach, Forestomach	(10)	(1)	(0)	(10)
Hyperplasia, Squamous	1 (10%)			
Stomach, Glandular	(10)	(1)	(0)	(10)

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### CARDIOVASCULAR SYSTEM

Blood Vessel	(10)	(0)	(0)	(10)
Heart	(10)	(1)	(0)	(10)

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### ENDOCRINE SYSTEM

Adrenal Cortex	(10)	(1)	(0)	(10)
Adrenal Medulla	(10)	(1)	(0)	(9)

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Islets, Pancreatic	(10)	(1)	(0)	(10)
Parathyroid Gland	(9)	(1)	(0)	(9)
Pituitary Gland	(10)	(1)	(0)	(10)
Thyroid Gland	(10)	(1)	(0)	(10)

GENERAL BODY SYSTEM

None

GENITAL SYSTEM

Clitoral Gland	(10)	(1)	(0)	(10)
Inflammation, Chronic Active	2 (20%)	1 (100%)		3 (30%)
Ovary	(10)	(1)	(0)	(10)
Uterus	(10)	(1)	(0)	(10)

HEMATOPOIETIC SYSTEM

Bone Marrow	(10)	(1)	(0)	(10)
Lymph Node, Bronchial	(6)	(5)	(7)	(5)
Pigmentation	1 (17%)	1 (20%)	3 (43%)	4 (80%)
Lymph Node, Mandibular	(10)	(1)	(0)	(10)
Lymph Node, Mediastinal	(8)	(10)	(8)	(9)
Pigmentation	3 (38%)	9 (90%)	7 (88%)	7 (78%)
Lymph Node, Mesenteric	(10)	(1)	(0)	(10)
Infiltration Cellular, Histiocyte	1 (10%)			
Spleen	(10)	(1)	(0)	(10)
Thymus	(10)	(1)	(0)	(10)
Necrosis		1 (100%)		

INTEGUMENTARY SYSTEM

Mammary Gland	(10)	(1)	(0)	(10)
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Skin	(10)	(1)	(0)	(10)
<b>MUSCULOSKELETAL SYSTEM</b>				
Bone	(10)	(1)	(0)	(10)
Inflammation, Chronic Active		1 (100%)		
<b>NERVOUS SYSTEM</b>				
Brain	(10)	(1)	(0)	(10)
<b>RESPIRATORY SYSTEM</b>				
Larynx	(10)	(1)	(0)	(10)
Lung	(10)	(10)	(10)	(10)
Infiltration Cellular, Histiocyte	1 (10%)	1 (10%)	8 (80%)	10 (100%)
Inflammation, Chronic Active			1 (10%)	10 (100%)
Pigmentation			8 (80%)	10 (100%)
Nose	(10)	(1)	(0)	(10)
Trachea	(10)	(1)	(0)	(10)
<b>SPECIAL SENSES SYSTEM</b>				
Eye	(10)	(1)	(0)	(10)
Harderian Gland	(10)	(1)	(0)	(10)
<b>URINARY SYSTEM</b>				
Kidney	(10)	(1)	(0)	(10)
Mineralization				1 (10%)
Nephropathy	1 (10%)			1 (10%)
Pelvis, Dilatation				1 (10%)
Urinary Bladder	(10)	(1)	(0)	(10)

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**Wistar Han RATS FEMALE**

**0 mg/m3**

**2 mg/m3**

**15 mg/m3**

**30 mg/m3**

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\*\*\* END OF REPORT \*\*\*

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