2390

The Goodyear Tire & Rubber Company

Akron, Ohio 44316-0001

6 November 1997

Certified Mail

8EHQ-1197-14063

OPPT Document Processing Center (TS-790)
Attn: Section 8(e) Coordinator
Office of Pollution Prevention and Toxics (OPPT)
U.S. Environmental Protection Agency
401 M Street, S.W.
Washington, D.C. 20460

Contains No CBI

Dear Ladies/Gentlemen:

Subject: **TSCA Section 8(e) Notice**

This submittal does not contain Confidential Business Information.

On 27 October 1997 The Goodyear Tire & Rubber Company received copies of certain tables of pathology results associated with a two year chronic inhalation study being performed for NTP. The identity of the test material is as follows:

CAS Name: 1,3-Butadiene, 2-methyl-

CAS Number: 78-79-5

8EHQ-97-14063

These preliminary pathology results indicate statistically significant increases in the incidences of tumors in male and female rats. Consequently, under the requirements of Section 8(e) of the Toxic Substances Control Act and EPA's Statement on Interpretation and Enforcement Policy, 43 Fed.Reg. 1110 (16 March 1978), The Goodyear Tire & Rubber Company is providing the EPA with copies of the pathology tables.

We understand that these findings are very preliminary and have not been reported in a draft form for peer review. Any follow-up or supplemental information regarding this study that comes to the attention of Goodyear will be forwarded to the EPA.

Please contact Michael W. Smith, Section Manager, Chemical Information Systems & Regulatory Affairs with any questions:

The Goodyear Tire & Rubber Company
Department 100D
1144 East Market Street
Akron, Ohio 44316-0001

Telephone: (330) 796-2362

Sincerely,

G W Culkin

Gerald W. Culkin, Ph.D., P.E.
Manager, Chemical Material Safety

88980000032

attachment

G 410

NTP Experiment-Test: 05135-07 INCIDENCE RATES OF NEOPLASMS BY ANATOMIC SITE (SYSTEMIC LESIONS ABRIDGED) (a)
ISOPRENE

Report: PBIRPT05
Date: 09/24/97
Time: 09:55:11

Study Type: CHRONIC
Route: RESPIRATORY EXPOSURE WHOLE BODY

2 YEAR CHRONIC

Facility: Battelle Northwest

Chemical CAS #: 78-79-5

Lock Date: 03/13/96

Cage Range: All

Reasons For Removal: All

Removal Date Range: All

Treatment Groups: Include All

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

STATISTICAL ANALYSIS OF PRIMARY TUMORS
ISOPRENE

REPORT: PEIRPT08
DATE: 09/24/97
TIME: 10:01:07

NTP
LAB: Battelle Northwest
EXPERIMENT: 05135 TEST: 07
TEST TYPE: CHRONIC
CONT: NO1-ES-25335
PATHOLOGIST: GRUMBEIN, S.

CAGES FROM 0000 TO LAST CAGE
ROUTE: RESPIRATORY EXPOSURE WHOLE BODY

NTP C#: 61825B
CAS: 78-79-5

RATS (FISCHER344)

FOR ALL DOSES THE TUMOR RATES IN THE FOLLOWING TISSUES/ORGANS ARE BASED ON NUMBER OF TISSUES EXAMINED.
IN OTHER TISSUES/ORGANS, RATES ARE BASED ON NUMBER OF ANIMALS NECROPSIED.

Adrenal Cortex
Adrenal Medulla
Bone Marrow
Brain
Clitoral Gland
Clitoral/Preputial Gland
Epididymis
Heart
Islets, Pancreatic
Kidney
Larynx
Liver
Lung
Nose
Ovary
Pancreas
Parathyroid Gland
Pituitary Gland
Preputial Gland
Prostate
Salivary Glands
Spleen
Testes
Thymus
Thyroid Gland
Urinary Bladder

NTP
LAB: Battelle Northwest
EXPERIMENT: 05135 TEST: 07
TEST TYPE: CHRONIC
CONT: NO1-ES-25335
PATHOLOGIST: GRUMBEIN, S.

STATISTICAL ANALYSIS OF PRIMARY TUMORS
ISOPRENE

CAGES FROM 0000 TO LAST CAGE
ROUTE: RESPIRATORY EXPOSURE WHOLE BODY

REPORT: PEIRPT08
DATE: 09/24/97
TIME: 10:01:07

NTP C#: 61825B
CAS: 78-79-5

SUMMARY OF STATISTICALLY SIGNIFICANT (P<=.05) RESULTS
IN THE ANALYSIS OF THE STUDY OF ISOPRENE

Data attached

MALE RATS

ORGAN	MORPHOLOGY
Kidney: Renal Tubule	Adenoma
	Carcinoma or Adenoma
Lung	Alveolar/Bronchiolar Carcinoma
	Alveolar/Bronchiolar Carcinoma or Alveolar/Bronchiolar Adenoma
Mammary Gland	Fibroadenoma
	Fibroma, Fibroadenoma, Carcinoma, or Adenoma
Pituitary Gland: Pars Distalis	or Unspecified Site
	Adenoma
	Carcinoma or Adenoma
Testes	Adenoma

FEMALE RATS

ORGAN	MORPHOLOGY
Mammary Gland	Fibroadenoma
	Fibroma, Fibroadenoma, Carcinoma, or Adenoma
Thyroid Gland: C-Cell	Carcinoma or Adenoma

NTP Experiment-Test: 05135-07 INCIDENCE RATES OF NEOPLASMS BY ANATOMIC SITE (SYSTEMIC LESIONS ABRIDGED) (a)
ISOPRENE

Report: PEIRPT05
Date: 09/24/97
Time: 09:55:11

Study Type: CHRONIC
Route: RESPIRATORY EXPOSURE WHOLE BODY

FISCHER 344 RATS MALE	CONTROL	220 PPM	700 PPM	7000 PPM
DISPOSITION SUMMARY				
Animals Initially In Study	50	50	50	50
Early Deaths				
Moribund Sacrifice	28	29	30	30
Natural Death	4	5	5	5
Survivors			1	
Moribund Sacrifice	18	16	14	15
Terminal Sacrifice				
Animals Examined Microscopically	50	50	50	50
ALIMENTARY SYSTEM				
Intestine Large, Colon	(49)	(49)	(47)	(50)
Intestine Large, Rectum	(47)	(49)	(46)	(50)
Anus, Leiomyoma		1 (2%)	1 (2%)	
Anus, Squamous Cell Papilloma	(48)	(47)	(46)	(50)
Intestine Large, Cecum	(46)	(46)	(47)	(47)
Intestine Small, Jejunum				1 (2%)
Carcinoma	(46)	(47)	(47)	(49)
Intestine Small, Ileum	(50)	(50)	(50)	(50)
Liver		1 (2%)		
Hepatocellular Carcinoma		2 (4%)		
Hepatocellular Adenoma		1 (2%)		1 (2%)
Histiocytic Sarcoma				
Osteosarcoma, Metastatic, Bone	(8)	(12)	(11)	(11)
Mesentery	(1)	(1)		
Oral Mucosa	1 (100%)			
Gingival, Sarcoma	(50)	(50)	(50)	(50)
Pancreas	3 (6%)	1 (2%)	3 (6%)	
Adenoma	(50)	(50)	(50)	(50)
Salivary Glands	(50)	(50)	(50)	(50)
Stomach, Forestomach		1 (2%)		
Histiocytic Sarcoma			1 (2%)	
Leiomyosarcoma	(50)	(50)	(50)	(50)
Stomach, Glandular		1 (2%)		
Carcinoid Tumor Benign			(1)	(1)
Tongue				1 (100%)
Squamous Cell Papilloma				

NTP Experiment-Test: 05135-07 INCIDENCE RATES OF NEOPLASMS BY ANATOMIC SITE (SYSTEMIC LESIONS ABRIDGED) (a)
ISOPRENE
Study Type: CHRONIC
Route: RESPIRATORY EXPOSURE WHOLE BODY

FISCHER 344 RATS MALE	CONTROL	220 PPM	700 PPM	7000 PPM
TUMOR SUMMARY				
Total Animals with Primary Neoplasms (b)	50	50	49	48
Total Primary Neoplasms	150	166	174	184
Total Animals with Benign Neoplasms	49	50	49	48
Total Benign Neoplasms	108	125	135	139
Total Animals with Malignant Neoplasms	34	33	30	34
Total Malignant Neoplasms	42	41	39	45
Total Animals with Metastatic Neoplasms		2		5
Total Metastatic Neoplasm		3		6
Total Animals with Malignant Neoplasms Uncertain Primary Site				1
Total Animals with Neoplasms Uncertain-Benign or Malignant				
Total Uncertain Neoplasms				

a Number of animals examined microscopically at site and number of animals with lesion
b Primary tumors: all tumors except metastatic tumors

NTP Experiment-Test: 05135-07 INCIDENCE RATES OF NEOPLASMS BY ANATOMIC SITE (SYSTEMIC LESIONS ABRIDGED) (a)
ISOPRENE
Study Type: CHRONIC
Route: RESPIRATORY EXPOSURE WHOLE BODY

FISCHER 344 RATS FEMALE	CONTROL	220 PPM	700 PPM	7000 PPM
DISPOSITION SUMMARY				
Animals Initially in Study	50	50	50	50
Early Deaths				
Natural Death	5	5	4	
Moribund Sacrifice	16	15	18	23
Survivors				
Terminal Sacrifice	29	30	28	27
Animals Examined Microscopically	50	50	50	50
ALIMENTARY SYSTEM				
Esophagus	(50)	(50)	(50)	(50)
Intestine Large, Colon	(50)	(48)	(49)	(50)
Intestine Large, Cecum	(49)	(47)	(47)	(50)
Intestine Small, Duodenum	(49)	(48)	(50)	(50)
Fibroma		1 (2%)		
Liver	(50)	(50)	(50)	(50)
Hepatocellular Carcinoma			1 (2%)	1 (2%)
Hepatocellular Adenoma				(11)
Histiocytic Sarcoma	(9)	(10)	(8)	
Mesentery		(1)	(1)	
Oral Mucosa		1 (100%)		
Pharyngeal, Squamous Cell Carcinoma	(50)	(50)	(50)	(50)
Pancreas	(50)	(50)	(50)	(50)
Salivary Glands	(50)	(50)	(50)	(50)
Stomach, Forestomach				1 (2%)
Squamous Cell Papilloma	(50)	(49)	(50)	(50)
Stomach, Glandular	(1)		(1)	
Tongue	1 (100%)		(50%)	
Squamous Cell Papilloma				
CARDIOVASCULAR SYSTEM				
Heart	(50)	(50)	(50)	(50)
Schwannoma Benign			1 (2%)	
ENDOCRINE SYSTEM				
Adrenal Cortex	(50)	(50)	(50)	(50)
Adenoma	2 (4%)	1 (2%)	2 (4%)	1 (2%)
Adrenal Medulla	(50)	(50)	(50)	(50)
Pheochromocytoma Malignant	1 (2%)			

NTP Experiment-Test: 05135-07 INCIDENCE RATES OF NEOPLASMS BY ANATOMIC SITE (SYSTEMIC LESIONS ABRIDGED) (a)
ISOPRENE
Study Type: CHRONIC
Route: RESPIRATORY EXPOSURE WHOLE BODY

FISCHER 344 RATS FEMALE	CONTROL	220 PPM	700 PPM	7000 PPM
TUMOR SUMMARY				
Total Animals with Primary Neoplasms (b)	49	48	49	48
Total Primary Neoplasms	109	121	124	120
Total Animals with Benign Neoplasms	43	43	46	41
Total Benign Neoplasms	79	90	94	84
Total Animals with Malignant Neoplasms	28	27	26	31
Total Malignant Neoplasms	30	31	30	36
Total Animals with Metastatic Neoplasms	2	4	1	
Total Metastatic Neoplasm	2	4	1	
Total Animals with Malignant Neoplasms Uncertain Primary Site				
Total Animals with Neoplasms Uncertain-Benign or Malignant				
Total Uncertain Neoplasms				

a Number of animals examined microscopically at site and number of animals with lesion
b Primary tumors: all tumors except metastatic tumors

DATE: 09/24/97

EXPERIMENT: 05135 TEST: 07
STATISTICAL ANALYSIS OF PRIMARY TUMORS IN RATS (FISCHER344) -- ISOPRENE

TERMINAL SACRIFICE AT 105 WEEKS

DOSE	MALES CONTROL	MALES 220 PPM	MALES 700 PPM	MALES 7000 PPM	FEMALES CONTROL	FEMALES 220 PPM	FEMALES 700 PPM	FEMALES 7000 PPM
Kidney: Renal Tubule Adenoma								
TUMOR RATES								
OVERALL (a)	0/50 (0%)	2/50 (4%)	2/50 (4%)	6/50 (12%)	0/50 (0%)	0/49 (0%)	1/50 (2%)	0/50 (0%)
ADJUSTED (b)	0.0%	7.8%	6.7%	25.5%	0.0%	0.0%	3.6%	0.0%
TERMINAL (d)	0/18 (0%)	0/16 (0%)	0/15 (0%)	1/15 (7%)	0/29 (0%)	0/30 (0%)	1/28 (4%)	0/27 (0%)
FIRST INCIDENCE (DAYS)	---	559	566	630	---	---	734 (T)	---
STATISTICAL TESTS (f)								
LIFE TABLE	P=0.012 *	P=0.223	P=0.235	P=0.015 *	P=0.754N	(e)	P=0.493	(e)
INCIDENTAL TUMOR	P=0.017 *	P=0.279	P=0.273	P=0.025 *	P=0.754N	(e)	P=0.493	(e)
LOGISTIC REGRESSION	P=0.010 **	P=0.235	P=0.231	P=0.017 *	P=0.754N	(e)	P=0.493	(e)
COCHRAN-ARMITAGE	P=0.010 **				P=0.739N			
FISHER EXACT		P=0.247	P=0.247	P=0.013 *		(e)	P=0.500	(e)
Kidney: Renal Tubule Carcinoma or Adenoma								
TUMOR RATES								
OVERALL (a)	0/50 (0%)	2/50 (4%)	2/50 (4%)	6/50 (12%)	0/50 (0%)	0/49 (0%)	1/50 (2%)	0/50 (0%)
ADJUSTED (b)	0.0%	7.8%	6.7%	25.5%	0.0%	0.0%	3.6%	0.0%
TERMINAL (d)	0/18 (0%)	0/16 (0%)	0/15 (0%)	1/15 (7%)	0/29 (0%)	0/30 (0%)	1/28 (4%)	0/27 (0%)
FIRST INCIDENCE (DAYS)	---	559	566	630	---	---	734 (T)	---
STATISTICAL TESTS (f)								
LIFE TABLE	P=0.012 *	P=0.223	P=0.235	P=0.015 *	P=0.754N	(e)	P=0.493	(e)
INCIDENTAL TUMOR	P=0.017 *	P=0.279	P=0.273	P=0.025 *	P=0.754N	(e)	P=0.493	(e)
LOGISTIC REGRESSION	P=0.010 **	P=0.235	P=0.231	P=0.017 *	P=0.754N	(e)	P=0.493	(e)
COCHRAN-ARMITAGE	P=0.010 **				P=0.739N			
FISHER EXACT		P=0.247	P=0.247	P=0.013 *		(e)	P=0.500	(e)

DATE: 09/24/97

EXPERIMENT: 05135 TEST: 07
STATISTICAL ANALYSIS OF PRIMARY TUMORS IN RATS(FISCHER344) -- ISOPRENE

TERMINAL SACRIFICE AT 105 WEEKS

DOSE	MALES CONTROL	MALES 220 PPM	MALES 700 PPM	MALES 7000 PPM	FEMALES CONTROL	FEMALES 220 PPM	FEMALES 700 PPM	FEMALES 7000 PPM
Lung Alveolar/Bronchiolar Carcinoma								
TUMOR RATES								
OVERALL (a)	1/49 (2%)	0/50 (0%)	0/50 (0%)	3/50 (6%)	0/50 (0%)	0/50 (0%)	0/50 (0%)	0/50 (0%)
ADJUSTED (b)	5.6%	0.0%	0.0%	12.2%	0.0%	0.0%	0.0%	0.0%
TERMINAL (d)	1/18 (6%)	0/16 (0%)	0/15 (0%)	0/15 (0%)	0/29 (0%)	0/30 (0%)	0/28 (0%)	0/27 (0%)
FIRST INCIDENCE (DAYS)	733 (T)	---	---	630	---	---	---	---
STATISTICAL TESTS (f)								
LIFE TABLE	P=0.040 *	P=0.523N	P=0.536N	P=0.283	(e)	(e)	(e)	(e)
INCIDENTAL TUMOR	P=0.054	P=0.523N	P=0.536N	P=0.356	(e)	(e)	(e)	(e)
LOGISTIC REGRESSION	P=0.043 *	P=0.523N	P=0.536N	P=0.309	(e)	(e)	(e)	(e)
COCHRAN-ARMITAGE	P=0.043 *				(e)			
FISHER EXACT		P=0.495N	P=0.495N	P=0.316		(e)	(e)	(e)
Lung Alveolar/Bronchiolar Carcinoma or Alveolar/Bronchiolar Adenoma								
TUMOR RATES								
OVERALL (a)	1/49 (2%)	0/50 (0%)	0/50 (0%)	3/50 (6%)	1/50 (2%)	0/50 (0%)	0/50 (0%)	2/50 (4%)
ADJUSTED (b)	5.6%	0.0%	0.0%	12.2%	3.4%	0.0%	0.0%	6.1%
TERMINAL (d)	1/18 (6%)	0/16 (0%)	0/15 (0%)	0/15 (0%)	1/29 (3%)	0/30 (0%)	0/28 (0%)	1/27 (4%)
FIRST INCIDENCE (DAYS)	733 (T)	---	---	630	734 (T)	---	---	625
STATISTICAL TESTS (f)								
LIFE TABLE	P=0.040 *	P=0.523N	P=0.536N	P=0.283	P=0.150	P=0.493N	P=0.507N	P=0.478
INCIDENTAL TUMOR	P=0.054	P=0.523N	P=0.536N	P=0.356	P=0.129	P=0.493N	P=0.507N	P=0.462
LOGISTIC REGRESSION	P=0.043 *	P=0.523N	P=0.536N	P=0.309	P=0.155	P=0.493N	P=0.507N	P=0.486
COCHRAN-ARMITAGE	P=0.043 *				P=0.163			
FISHER EXACT		P=0.495N	P=0.495N	P=0.316		P=0.500N	P=0.500N	P=0.500

DATE: 09/24/97

EXPERIMENT: 05135 TEST: 07
STATISTICAL ANALYSIS OF PRIMARY TUMORS IN RATS(FISCHER344) -- ISOPRENE

TERMINAL SACRIFICE AT 105 WEEKS

DOSE	MALES CONTROL	MALES 220 PPM	MALES 700 PPM	MALES 7000 PPM	FEMALES CONTROL	FEMALES 220 PPM	FEMALES 700 PPM	FEMALES 7000 PPM
Mammary Gland Carcinoma								
TUMOR RATES	#	#	#	#	#	#	#	#
OVERALL (a)	0/50 (0%)	1/50 (2%)	1/50 (2%)	2/50 (4%)	4/50 (8%)	2/50 (4%)	1/50 (2%)	3/50 (6%)
ADJUSTED (b)	0.0%	5.3%	6.7%	11.3%	13.8%	6.3%	3.6%	9.3%
TERMINAL (d)	0/18 (0%)	0/16 (0%)	1/15 (7%)	1/15 (7%)	4/29 (14%)	1/30 (3%)	1/28 (4%)	2/27 (7%)
FIRST INCIDENCE (DAYS)	---	717	733 (T)	721	734 (T)	714	734 (T)	432
STATISTICAL TESTS (f)								
LIFE TABLE	P=0.239	P=0.462	P=0.464	P=0.205	P=0.496	P=0.324N	P=0.187N	P=0.535N
INCIDENTAL TUMOR	P=0.242	P=0.525	P=0.464	P=0.233	P=0.543	P=0.324N	P=0.187N	P=0.502N
LOGISTIC REGRESSION	P=0.243	P=0.491	P=0.464	P=0.214	P=0.514	P=0.324N	P=0.187N	P=0.513N
COCHRAN-ARMITAGE	P=0.252				P=0.536			
FISHER EXACT		P=0.500	P=0.500	P=0.247		P=0.339N	P=0.181N	P=0.500N
Mammary Gland Fibroadenoma								
TUMOR RATES	#	#	#	#	#	#	#	#
OVERALL (a)	2/50 (4%)	4/50 (8%)	6/50 (12%)	21/50 (42%)	19/50 (38%)	35/50 (70%)	32/50 (64%)	32/50 (64%)
ADJUSTED (b)	10.3%	17.5%	23.9%	79.5%	51.5%	82.9%	84.1%	81.7%
TERMINAL (d)	1/18 (6%)	2/16 (13%)	1/15 (7%)	10/15 (67%)	12/29 (41%)	23/30 (77%)	22/28 (79%)	20/27 (74%)
FIRST INCIDENCE (DAYS)	724	629	591	664	596	482	539	432
STATISTICAL TESTS (f)								
LIFE TABLE	P<0.001 **	P=0.303	P=0.117	P<0.001 **	P=0.113	P=0.008 **	P=0.011 *	P=0.008 **
INCIDENTAL TUMOR	P<0.001 **	P=0.354	P=0.161	P<0.001 **	P=0.108	P=0.002 **	P=0.002 **	P=0.003 **
LOGISTIC REGRESSION	P<0.001 **	P=0.338	P=0.129	P<0.001 **	P=0.089	P=0.002 **	P=0.003 **	P=0.003 **
COCHRAN-ARMITAGE	P<0.001 **				P=0.196			
FISHER EXACT		P=0.339	P=0.134	P<0.001 **		P=0.001 **	P=0.008 **	P=0.008 **

DATE: 09/24/97

EXPERIMENT: 05135 TEST: 07
STATISTICAL ANALYSIS OF PRIMARY TUMORS IN RATS(FISCHER344) -- ISOPRENE

TERMINAL SACRIFICE AT 105 WEEKS

DOSE	MALES CONTROL	MALES 220 PPM	MALES 700 PPM	MALES 7000 PPM	FEMALES CONTROL	FEMALES 220 PPM	FEMALES 700 PPM	FEMALES 7000 PPM
Mammary Gland Fibroma, Fibroadenoma, Carcinoma, or Adenoma								
TUMOR RATES	#	#	#	#	#	#	#	#
OVERALL (a)	2/50 (4%)	5/50 (10%)	7/50 (14%)	21/50 (42%)	20/50 (40%)	35/50 (70%)	32/50 (64%)	32/50 (64%)
ADJUSTED (b)	10.3%	21.8%	29.4%	79.5%	54.3%	82.9%	84.1%	81.7%
TERMINAL (d)	1/18 (6%)	2/16 (13%)	2/15 (13%)	10/15 (67%)	13/29 (45%)	23/30 (77%)	22/28 (79%)	20/27 (74%)
FIRST INCIDENCE (DAYS)	724	629	591	664	596	482	539	432
STATISTICAL TESTS (f)								
LIFE TABLE	P<0.001 **	P=0.185	P=0.067	P<0.001 **	P=0.129	P=0.012 *	P=0.016 *	P=0.013 *
INCIDENTAL TUMOR	P<0.001 **	P=0.238	P=0.094	P<0.001 **	P=0.127	P=0.003 **	P=0.004 **	P=0.005 **
LOGISTIC REGRESSION	P<0.001 **	P=0.214	P=0.075	P<0.001 **	P=0.105	P=0.003 **	P=0.006 **	P=0.005 **
COCHRAN-ARMITAGE	P<0.001 **				P=0.224			
FISHER EXACT		P=0.218	P=0.080	P<0.001 **		P=0.002 **	P=0.014 *	P=0.014 *
Ovary Granulosa Cell Tumor: Benign, Malignant, NOS								
TUMOR RATES								
OVERALL (a)					2/50 (4%)	0/50 (0%)	0/50 (0%)	1/50 (2%)
ADJUSTED (b)					5.5%	0.0%	0.0%	3.7%
TERMINAL (d)					1/29 (3%)	0/30 (0%)	0/28 (0%)	1/27 (4%)
FIRST INCIDENCE (DAYS)					552	---	---	734 (T)
STATISTICAL TESTS (f)								
LIFE TABLE					P=0.643	P=0.231N	P=0.249N	P=0.524N
INCIDENTAL TUMOR					P=0.626	P=0.219N	P=0.212N	P=0.538N
LOGISTIC REGRESSION					P=0.667	P=0.253N	P=0.222N	P=0.498N
COCHRAN-ARMITAGE					P=0.662			
FISHER EXACT						P=0.247N	P=0.247N	P=0.500N

DATE: 09/24/97

EXPERIMENT: 05135 TEST: 07
STATISTICAL ANALYSIS OF PRIMARY TUMORS IN RATS(FISCHER344) -- ISOPRENE

TERMINAL SACRIFICE AT 105 WEEKS

DOSE	MALES CONTROL	MALES 220 PPM	MALES 700 PPM	MALES 7000 PPM	FEMALES CONTROL	FEMALES 220 PPM	FEMALES 700 PPM	FEMALES 7000 PPM
Pancreas Adenoma								
TUMOR RATES								
OVERALL (a)	3/50 (6%)	1/50 (2%)	3/50 (6%)	0/50 (0%)	0/50 (0%)	0/50 (0%)	0/50 (0%)	0/50 (0%)
ADJUSTED (b)	12.1%	6.3%	13.6%	0.0%	0.0%	0.0%	0.0%	0.0%
TERMINAL (d)	1/18 (6%)	1/16 (6%)	1/15 (7%)	0/15 (0%)	0/29 (0%)	0/30 (0%)	0/28 (0%)	0/27 (0%)
FIRST INCIDENCE (DAYS)	600	733 (T)	667	---	---	---	---	---
STATISTICAL TESTS (f)								
LIFE TABLE	P=0.143N	P=0.340N	P=0.611	P=0.135N	(e)	(e)	(e)	(e)
INCIDENTAL TUMOR	P=0.128N	P=0.297N	P=0.639N	P=0.098N	(e)	(e)	(e)	(e)
LOGISTIC REGRESSION	P=0.131N	P=0.301N	P=0.663	P=0.119N	(e)	(e)	(e)	(e)
COCHRAN-ARMITAGE	P=0.134N				(e)			
FISHER EXACT		P=0.309N	P=0.661N	P=0.121N		(e)	(e)	(e)
Pituitary Gland: Pars Distalis or Unspecified Site Adenoma								
TUMOR RATES								
OVERALL (a)	39/50 (78%)	40/50 (80%)	39/50 (78%)	31/49 (63%)	33/50 (66%)	27/50 (54%)	36/50 (72%)	27/50 (54%)
ADJUSTED (b)	94.8%	90.4%	88.2%	92.9%	82.1%	61.5%	85.4%	74.0%
TERMINAL (d)	16/18 (89%)	12/16 (75%)	10/15 (67%)	13/15 (87%)	22/29 (76%)	14/30 (47%)	22/28 (79%)	18/27 (67%)
FIRST INCIDENCE (DAYS)	342	420	454	560	454	482	510	432
STATISTICAL TESTS (f)								
LIFE TABLE	P=0.131N	P=0.386	P=0.386	P=0.260N	P=0.357N	P=0.157N	P=0.302	P=0.302N
INCIDENTAL TUMOR	P=0.030N*	P=0.559	P=0.535N	P=0.056N	P=0.248N	P=0.130N	P=0.258	P=0.217N
LOGISTIC REGRESSION	P=0.025N*	P=0.552	P=0.555N	P=0.059N	P=0.222N	P=0.134N	P=0.273	P=0.207N
COCHRAN-ARMITAGE	P=0.024N*				P=0.156N			
FISHER EXACT		P=0.500	P=0.595N	P=0.082N		P=0.154N	P=0.333	P=0.154N

DATE: 09/24/97

EXPERIMENT: 05135 TEST: 07
STATISTICAL ANALYSIS OF PRIMARY TUMORS IN RATS(FISCHER344) -- ISOPRENE

TERMINAL SACRIFICE AT 105 WEEKS

DOSE	MALES CONTROL	MALES 220 PPM	MALES 700 PPM	MALES 7000 PPM	FEMALES CONTROL	FEMALES 220 PPM	FEMALES 700 PPM	FEMALES 7000 PPM
Pituitary Gland: Pars Distalis or Unspecified Site Carcinoma or Adenoma								
TUMOR RATES								
OVERALL (a)	39/50 (78%)	40/50 (80%)	39/50 (78%)	31/49 (63%)	34/50 (68%)	27/50 (54%)	37/50 (74%)	27/50 (54%)
ADJUSTED (b)	94.8%	90.4%	88.2%	92.9%	82.5%	61.5%	87.9%	74.0%
TERMINAL (d)	16/18 (89%)	12/16 (75%)	10/15 (67%)	13/15 (87%)	22/29 (76%)	14/30 (47%)	23/28 (82%)	18/27 (67%)
FIRST INCIDENCE (DAYS)	342	420	454	560	454	482	510	432
STATISTICAL TESTS (f)								
LIFE TABLE	P=0.131N	P=0.386	P=0.386	P=0.260N	P=0.312N	P=0.124N	P=0.301	P=0.249N
INCIDENTAL TUMOR	P=0.030N*	P=0.559	P=0.539N	P=0.056N	P=0.203N	P=0.088N	P=0.262	P=0.165N
LOGISTIC REGRESSION	P=0.025N*	P=0.552	P=0.555N	P=0.059N	P=0.173N	P=0.099N	P=0.270	P=0.149N
COCHRAN-ARMITAGE	P=0.024N*				P=0.119N			
FISHER EXACT		P=0.500	P=0.595N	P=0.082N		P=0.109N	P=0.330	P=0.109N
Skin Basal Cell Adenoma, Basosquamous Tumor Benign, or Trichoepithelioma								
TUMOR RATES	#	#	#	#	#	#	#	#
OVERALL (a)	1/50 (2%)	1/50 (2%)	2/50 (4%)	1/50 (2%)	0/50 (0%)	0/50 (0%)	0/50 (0%)	0/50 (0%)
ADJUSTED (b)	5.6%	6.3%	9.8%	2.9%	0.0%	0.0%	0.0%	0.0%
TERMINAL (d)	1/18 (6%)	1/16 (6%)	0/15 (0%)	0/15 (0%)	0/29 (0%)	0/30 (0%)	0/28 (0%)	0/27 (0%)
FIRST INCIDENCE (DAYS)	733 (T)	733 (T)	684	622	---	---	---	---
STATISTICAL TESTS (f)								
LIFE TABLE	P=0.630N	P=0.737	P=0.457	P=0.744	(e)	(e)	(e)	(e)
INCIDENTAL TUMOR	P=0.592N	P=0.737	P=0.521	P=0.730N	(e)	(e)	(e)	(e)
LOGISTIC REGRESSION	P=0.612N	P=0.737	P=0.477	P=0.761N	(e)	(e)	(e)	(e)
COCHRAN-ARMITAGE	P=0.615N				(e)			
FISHER EXACT		P=0.753N	P=0.500	P=0.753N		(e)	(e)	(e)

DATE: 09/24/97

EXPERIMENT: 05135 TEST: 07
STATISTICAL ANALYSIS OF PRIMARY TUMORS IN RATS(FISCHER344) -- ISOPRENE

TERMINAL SACRIFICE AT 105 WEEKS

DOSE	MALES CONTROL	MALES 220 PPM	MALES 700 PPM	MALES 7000 PPM	FEMALES CONTROL	FEMALES 220 PPM	FEMALES 700 PPM	FEMALES 7000 PPM
Skin Squamous Cell Papilloma, Papilloma, or Keratoacanthoma								
TUMOR RATES	#	#	#	#	#	#	#	#
OVERALL (a)	1/50 (2%)	3/50 (6%)	1/50 (2%)	2/50 (4%)	2/50 (4%)	2/50 (4%)	0/50 (0%)	0/50 (0%)
ADJUSTED (b)	5.6%	18.8%	6.7%	10.7%	6.9%	5.8%	0.0%	0.0%
TERMINAL (d)	1/18 (6%)	3/16 (19%)	1/15 (7%)	1/15 (7%)	2/29 (7%)	1/30 (3%)	0/28 (0%)	0/27 (0%)
FIRST INCIDENCE (DAYS)	733 (T)	733 (T)	733 (T)	691	734 (T)	670	---	---
STATISTICAL TESTS (f)								
LIFE TABLE	P=0.547	P=0.258	P=0.722	P=0.448	P=0.245N	P=0.678N	P=0.246N	P=0.254N
INCIDENTAL TUMOR	P=0.553	P=0.258	P=0.722	P=0.472	P=0.237N	P=0.685N	P=0.246N	P=0.254N
LOGISTIC REGRESSION	P=0.576	P=0.258	P=0.722	P=0.485	P=0.239N	P=0.682N	P=0.246N	P=0.254N
COCHRAN-ARMITAGE	P=0.586				P=0.226N			
FISHER EXACT		P=0.309	P=0.753N	P=0.500		P=0.691N	P=0.247N	P=0.247N
Testes Adenoma								
TUMOR RATES								
OVERALL (a)	33/50 (66%)	37/50 (74%)	44/50 (88%)	48/50 (96%)				
ADJUSTED (b)	93.9%	100.0%	100.0%	100.0%				
TERMINAL (d)	16/18 (89%)	16/16 (100%)	15/15 (100%)	15/15 (100%)				
FIRST INCIDENCE (DAYS)	454	398	454	361				
STATISTICAL TESTS (f)								
LIFE TABLE	P=0.026 *	P=0.183	P=0.024 *	P=0.009 **				
INCIDENTAL TUMOR	P<0.001 **	P=0.261	P=0.008 **	P<0.001 **				
LOGISTIC REGRESSION	P<0.001 **	P=0.327	P=0.008 **	P<0.001 **				
COCHRAN-ARMITAGE	P<0.001 **							
FISHER EXACT		P=0.257	P=0.008 **	P<0.001 **				

DATE: 09/24/97

EXPERIMENT: 05135 TEST: 07
STATISTICAL ANALYSIS OF PRIMARY TUMORS IN RATS(FISCHER344) -- ISOPRENE

TERMINAL SACRIFICE AT 105 WEEKS

DOSE	MALES CONTROL	MALES 220 PPM	MALES 700 PPM	MALES 7000 PPM	FEMALES CONTROL	FEMALES 220 PPM	FEMALES 700 PPM	FEMALES 7000 PPM
Thyroid Gland: C-Cell Carcinoma or Adenoma								
TUMOR RATES								
OVERALL (a)	4/49 (8%)	5/50 (10%)	4/49 (8%)	6/50 (12%)	8/48 (17%)	8/50 (16%)	4/49 (8%)	2/50 (4%)
ADJUSTED (b)	15.2%	23.7%	19.0%	30.3%	25.8%	24.1%	14.3%	6.3%
TERMINAL (d)	2/18 (11%)	2/16 (13%)	2/15 (13%)	4/15 (27%)	7/29 (24%)	6/30 (20%)	4/28 (14%)	1/27 (4%)
FIRST INCIDENCE (DAYS)	482	657	469	581	580	626	734 (T)	653
STATISTICAL TESTS (f)								
LIFE TABLE	P=0.305	P=0.454	P=0.592	P=0.324	P=0.057N	P=0.579N	P=0.190N	P=0.060N
INCIDENTAL TUMOR	P=0.236	P=0.508	P=0.636	P=0.221	P=0.056N	P=0.544N	P=0.168N	P=0.056N
LOGISTIC REGRESSION	P=0.345	P=0.524	P=0.641	P=0.384	P=0.051N	P=0.553N	P=0.183N	P=0.049N*
COCHRAN-ARMITAGE	P=0.345				P=0.041N*			
FISHER EXACT		P=0.513	P=0.643N	P=0.383		P=0.572N	P=0.168N	P=0.039N*
Thyroid Gland: Follicular Cell Carcinoma or Adenoma								
TUMOR RATES								
OVERALL (a)	2/49 (4%)	2/50 (4%)	2/49 (4%)	0/50 (0%)	0/48 (0%)	0/50 (0%)	1/49 (2%)	1/50 (2%)
ADJUSTED (b)	9.5%	11.2%	13.3%	0.0%	0.0%	0.0%	3.6%	3.7%
TERMINAL (d)	1/18 (6%)	1/16 (6%)	2/15 (13%)	0/15 (0%)	0/29 (0%)	0/30 (0%)	1/28 (4%)	1/27 (4%)
FIRST INCIDENCE (DAYS)	704	717	733 (T)	---	---	---	734 (T)	734 (T)
STATISTICAL TESTS (f)								
LIFE TABLE	P=0.178N	P=0.638	P=0.628	P=0.270N	P=0.424	(e)	P=0.493	P=0.486
INCIDENTAL TUMOR	P=0.171N	P=0.681N	P=0.664	P=0.237N	P=0.424	(e)	P=0.493	P=0.486
LOGISTIC REGRESSION	P=0.162N	P=0.682	P=0.645	P=0.240N	P=0.424	(e)	P=0.493	P=0.486
COCHRAN-ARMITAGE	P=0.160N				P=0.448			
FISHER EXACT		P=0.684N	P=0.691N	P=0.242N		(e)	P=0.505	P=0.510