

**TDMS No.** 20302-03  
**Test Type:** 90-DAY  
**Route:** RESPIRATORY EXPOSURE WHOLE BODY  
**Species/Strain:** RATS/F 344

**P10: STATISTICAL ANALYSIS OF NON-NEOPLASTIC LESIONS**  
ALPHA-PINENE  
**CAS Number:** 80-56-8  
**Pathologist:** RENNE, R. - GRUMBEIN, S. - LIEUALLEN, W.  
F1\_R2

**Date Report Reqsted:** 11/17/2006  
**Time Report Reqsted:** 7:32:51  
**First Dose M/F:** 03/28/05 / 03/29/05  
**Lab:** BNW

**C Number:** C20302  
**Lock Date:** 12/07/2005  
**Cage Range:** 1 - 9999  
**Date Range:** 1-JAN-1940 to 17-SEP-2040  
**Reasons For Removal:** ALL  
**Removal Date Range:** JAN /1 /1940 - SEP /17 /2040  
**Treatment Groups:** Include 1 CONTROL  
Include 4 25 ppm  
Include 7 100 ppm  
Include 10 200 ppm

Include 2 CONTROL  
Include 5 50 ppm  
Include 8 100 ppm  
Include 11 400 ppm

Include 3 25 ppm  
Include 6 50 ppm  
Include 9 200 ppm  
Include 12 400 ppm

TDMS No. 20302-03

Test Type: 90-DAY

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: RATS/F 344

**P10: STATISTICAL ANALYSIS OF NON-NEOPLASTIC LESIONS**

ALPHA-PINENE

CAS Number: 80-56-8

Pathologist: RENNE, R. - GRUMBEIN, S. - LIEUALLEN, W.

Date Report Requested: 11/17/2006

Time Report Requested: 7:32:51

First Dose M/F: 03/28/05 / 03/29/05

Lab: BNW

**SUMMARY OF STATISTICALLY SIGNIFICANT ( $P \leq .05$ ) RESULTS IN THE ANALYSIS OF ALPHA-PINENE**

**MALE RATS**

**Organ**

Kidney

**Morphology**

Accumulation, Hyaline Droplet

Casts Granular

**FEMALE RATS**

**Organ**

Lung

**Morphology**

Inflammation Chronic

**STATISTICAL ANALYSIS OF NON-NEOPLASTIC LESIONS IN RATS(F 344)  
 TERMINAL SACRIFICE AT 14 WEEKS**

DOSE	Males					
	CONTROL	25 ppm	50 ppm	100 ppm	200 ppm	400 ppm

**Heart  
 Cardiomyopathy**

**LESION RATES**

OVERALL (a)	6/10 (60%)	0/0 (0%)	0/0 (0%)	0/0 (0%)	0/0 (0%)	8/10 (80%)
POLY-3 RATE (b)	6/10.00	0/0.00	0/0.00	0/0.00	0/0.00	8/10.00
POLY-3 PERCENT (g)	60%	0%	0%	0%	0%	80%
TERMINAL (d)	6/10 (60%)	0/0 (0%)	0/0 (0%)	0/0 (0%)	0/0 (0%)	8/10 (80%)
FIRST INCIDENCE	93 (T)	---	---	---	---	93 (T)

**STATISTICAL TESTS**

LIFE TABLE	P=0.238	P=1.000N	P=1.000N	P=1.000N	P=1.000N	P=0.317
POLY 3	(e)	(e)	(e)	(e)	(e)	P=0.318
POLY 1.5	(e)	(e)	(e)	(e)	(e)	P=0.318
POLY 6	(e)	(e)	(e)	(e)	(e)	P=0.318
LOGISTIC REGRESSION	P=0.238	(e)	(e)	(e)	(e)	P=0.317
COCH-ARM / FISHERS	P=0.232	P=1.000	P=1.000	P=1.000	P=1.000	P=0.314
ORDER RESTRICTED	(e)	(e)	(e)	(e)	(e)	(e)
MAX-ISO-POLY-3	(e)	(e)	(e)	(e)	(e)	(e)

**STATISTICAL ANALYSIS OF NON-NEOPLASTIC LESIONS IN RATS(F 344)  
 TERMINAL SACRIFICE AT 14 WEEKS**

DOSE	Males					
	CONTROL	25 ppm	50 ppm	100 ppm	200 ppm	400 ppm
<b>Kidney</b>						
<b>Accumulation, Hyaline Droplet</b>						
<b>LESION RATES</b>						
OVERALL (a)	1/10 (10%)	10/10 (100%)	10/10 (100%)	10/10 (100%)	10/10 (100%)	10/10 (100%)
POLY-3 RATE (b)	1/10.00	10/10.00	10/10.00	10/10.00	10/10.00	10/10.00
POLY-3 PERCENT (g)	10%	100%	100%	100%	100%	100%
TERMINAL (d)	1/10 (10%)	10/10 (100%)	10/10 (100%)	10/10 (100%)	10/10 (100%)	10/10 (100%)
FIRST INCIDENCE	93 (T)	93 (T)	93 (T)	93 (T)	93 (T)	93 (T)
<b>STATISTICAL TESTS</b>						
LIFE TABLE	P=0.003**	P<0.001**	P<0.001**	P<0.001**	P<0.001**	P<0.001**
POLY 3	P<0.001**	P<0.001**	P<0.001**	P<0.001**	P<0.001**	P<0.001**
POLY 1.5	P<0.001**	P<0.001**	P<0.001**	P<0.001**	P<0.001**	P<0.001**
POLY 6	P<0.001**	P<0.001**	P<0.001**	P<0.001**	P<0.001**	P<0.001**
LOGISTIC REGRESSION	P=0.003**	P<0.001**	P<0.001**	P<0.001**	P<0.001**	P<0.001**
COCH-ARM / FISHERS	P=0.003**	P<0.001**	P<0.001**	P<0.001**	P<0.001**	P<0.001**
ORDER RESTRICTED	P<0.001**	(e)	(e)	(e)	(e)	(e)
MAX-ISO-POLY-3	P<0.001**	(e)	(e)	(e)	(e)	(e)

**STATISTICAL ANALYSIS OF NON-NEOPLASTIC LESIONS IN RATS(F 344)  
 TERMINAL SACRIFICE AT 14 WEEKS**

DOSE	Males					
	CONTROL	25 ppm	50 ppm	100 ppm	200 ppm	400 ppm
<b>Kidney</b>						
<b>Casts Granular</b>						
<b>LESION RATES</b>						
OVERALL (a)	0/10 (0%)	9/10 (90%)	10/10 (100%)	10/10 (100%)	10/10 (100%)	10/10 (100%)
POLY-3 RATE (b)	0/10.00	9/10.00	10/10.00	10/10.00	10/10.00	10/10.00
POLY-3 PERCENT (g)	0%	90%	100%	100%	100%	100%
TERMINAL (d)	0/10 (0%)	9/10 (90%)	10/10 (100%)	10/10 (100%)	10/10 (100%)	10/10 (100%)
FIRST INCIDENCE	---	93 (T)	93 (T)	93 (T)	93 (T)	93 (T)
<b>STATISTICAL TESTS</b>						
LIFE TABLE	P<0.001**	P<0.001**	P<0.001**	P<0.001**	P<0.001**	P<0.001**
POLY 3	P<0.001**	P<0.001**	P<0.001**	P<0.001**	P<0.001**	P<0.001**
POLY 1.5	P<0.001**	P<0.001**	P<0.001**	P<0.001**	P<0.001**	P<0.001**
POLY 6	P<0.001**	P<0.001**	P<0.001**	P<0.001**	P<0.001**	P<0.001**
LOGISTIC REGRESSION	(e)	P<0.001**	P<0.001**	P<0.001**	P<0.001**	P<0.001**
COCH-ARM / FISHERS	P<0.001**	P<0.001**	P<0.001**	P<0.001**	P<0.001**	P<0.001**
ORDER RESTRICTED	P<0.001**	(e)	(e)	(e)	(e)	(e)
MAX-ISO-POLY-3	P<0.001**	(e)	(e)	(e)	(e)	(e)

**STATISTICAL ANALYSIS OF NON-NEOPLASTIC LESIONS IN RATS(F 344)  
 TERMINAL SACRIFICE AT 14 WEEKS**

DOSE	Males					
	CONTROL	25 ppm	50 ppm	100 ppm	200 ppm	400 ppm
<b>Kidney Nephropathy</b>						
<b>LESION RATES</b>						
OVERALL (a)	9/10 (90%)	10/10 (100%)	10/10 (100%)	10/10 (100%)	10/10 (100%)	10/10 (100%)
POLY-3 RATE (b)	9/10.00	10/10.00	10/10.00	10/10.00	10/10.00	10/10.00
POLY-3 PERCENT (g)	90%	100%	100%	100%	100%	100%
TERMINAL (d)	9/10 (90%)	10/10 (100%)	10/10 (100%)	10/10 (100%)	10/10 (100%)	10/10 (100%)
FIRST INCIDENCE	93 (T)	93 (T)	93 (T)	93 (T)	93 (T)	93 (T)
<b>STATISTICAL TESTS</b>						
LIFE TABLE	P=0.416	P=0.500	P=0.500	P=0.500	P=0.500	P=0.500
POLY 3	P=0.416	P=0.500	P=0.500	P=0.500	P=0.500	P=0.500
POLY 1.5	P=0.416	P=0.500	P=0.500	P=0.500	P=0.500	P=0.500
POLY 6	P=0.416	P=0.500	P=0.500	P=0.500	P=0.500	P=0.500
LOGISTIC REGRESSION	P=0.416	P=0.500	P=0.500	P=0.500	P=0.500	P=0.500
COCH-ARM / FISHERS	P=0.415	P=0.500	P=0.500	P=0.500	P=0.500	P=0.500
ORDER RESTRICTED	P=0.064	(e)	(e)	(e)	(e)	(e)
MAX-ISO-POLY-3	P=0.076	(e)	(e)	(e)	(e)	(e)

**STATISTICAL ANALYSIS OF NON-NEOPLASTIC LESIONS IN RATS(F 344)  
 TERMINAL SACRIFICE AT 14 WEEKS**

DOSE	Males					
	CONTROL	25 ppm	50 ppm	100 ppm	200 ppm	400 ppm

**Lung  
 Inflammation Chronic**

**LESION RATES**

OVERALL (a)	2/10 (20%)	0/0 (0%)	0/0 (0%)	0/0 (0%)	0/0 (0%)	5/10 (50%)
POLY-3 RATE (b)	2/10.00	0/0.00	0/0.00	0/0.00	0/0.00	5/10.00
POLY-3 PERCENT (g)	20%	0%	0%	0%	0%	50%
TERMINAL (d)	2/10 (20%)	0/0 (0%)	0/0 (0%)	0/0 (0%)	0/0 (0%)	5/10 (50%)
FIRST INCIDENCE	93 (T)	---	---	---	---	93 (T)

**STATISTICAL TESTS**

LIFE TABLE	P=0.127	P=1.000N	P=1.000N	P=1.000N	P=1.000N	P=0.180
POLY 3	(e)	(e)	(e)	(e)	(e)	P=0.174
POLY 1.5	(e)	(e)	(e)	(e)	(e)	P=0.174
POLY 6	(e)	(e)	(e)	(e)	(e)	P=0.174
LOGISTIC REGRESSION	P=0.127	(e)	(e)	(e)	(e)	P=0.180
COCH-ARM / FISHERS	P=0.121	P=1.000	P=1.000	P=1.000	P=1.000	P=0.175
ORDER RESTRICTED	(e)	(e)	(e)	(e)	(e)	(e)
MAX-ISO-POLY-3	(e)	(e)	(e)	(e)	(e)	(e)

**STATISTICAL ANALYSIS OF NON-NEOPLASTIC LESIONS IN RATS(F 344)  
TERMINAL SACRIFICE AT 14 WEEKS**

DOSE	Males					
	CONTROL	25 ppm	50 ppm	100 ppm	200 ppm	400 ppm

**Mesentery: Fat  
Necrosis**

**LESION RATES**

OVERALL (a)	0/0 (0%)	1/1 (100%)	0/0 (0%)	0/0 (0%)	0/0 (0%)	0/0 (0%)
POLY-3 RATE (b)	0/0.00	1/1.00	0/0.00	0/0.00	0/0.00	0/0.00
POLY-3 PERCENT (g)	0%	100%	0%	0%	0%	0%
TERMINAL (d)	0/0 (0%)	1/1 (100%)	0/0 (0%)	0/0 (0%)	0/0 (0%)	0/0 (0%)
FIRST INCIDENCE	---	93 (T)	---	---	---	---

**STATISTICAL TESTS**

LIFE TABLE	(e)	(e)	(e)	(e)	(e)	(e)
POLY 3	(e)	(e)	(e)	(e)	(e)	(e)
POLY 1.5	(e)	(e)	(e)	(e)	(e)	(e)
POLY 6	(e)	(e)	(e)	(e)	(e)	(e)
LOGISTIC REGRESSION	(e)	(e)	(e)	(e)	(e)	(e)
COCH-ARM / FISHERS	(e)	(e)	(e)	(e)	(e)	(e)
ORDER RESTRICTED	(e)	(e)	(e)	(e)	(e)	(e)
MAX-ISO-POLY-3	(e)	(e)	(e)	(e)	(e)	(e)

**STATISTICAL ANALYSIS OF NON-NEOPLASTIC LESIONS IN RATS(F 344)  
TERMINAL SACRIFICE AT 14 WEEKS**

DOSE	Females					
	CONTROL	25 ppm	50 ppm	100 ppm	200 ppm	400 ppm

**Heart  
Cardiomyopathy**

**LESION RATES**

OVERALL (a)	3/10 (30%)	0/0 (0%)	0/0 (0%)	0/0 (0%)	2/10 (20%)	1/10 (10%)
POLY-3 RATE (b)	3/10.00	0/0.00	0/0.00	0/0.00	2/10.00	1/6.17
POLY-3 PERCENT (g)	30%	0%	0%	0%	20%	16.2%
TERMINAL (d)	3/10 (30%)	0/0 (0%)	0/0 (0%)	0/0 (0%)	2/10 (20%)	0/4 (0%)
FIRST INCIDENCE	93 (T)	---	---	---	93 (T)	50

**STATISTICAL TESTS**

LIFE TABLE	P=0.550N	P=1.000	P=1.000	P=1.000	P=0.500N	P=0.621N
POLY 3	(e)	(e)	(e)	(e)	P=0.500N	P=0.489N
POLY 1.5	(e)	(e)	(e)	(e)	P=0.500N	P=0.440N
POLY 6	(e)	(e)	(e)	(e)	P=0.500N	P=0.507N
LOGISTIC REGRESSION	P=0.206N	(e)	(e)	(e)	P=0.500N	P=0.316N
COCH-ARM / FISHERS	P=0.201N	P=1.000	P=1.000	P=1.000	P=0.500N	P=0.291N
ORDER RESTRICTED	(e)	(e)	(e)	(e)	(e)	(e)
MAX-ISO-POLY-3	(e)	(e)	(e)	(e)	(e)	(e)

**STATISTICAL ANALYSIS OF NON-NEOPLASTIC LESIONS IN RATS(F 344)  
TERMINAL SACRIFICE AT 14 WEEKS**

DOSE	Females					
	CONTROL	25 ppm	50 ppm	100 ppm	200 ppm	400 ppm

**Kidney  
Accumulation, Hyaline Droplet**

**LESION RATES**

OVERALL (a)	0/10 (0%)	0/10 (0%)	0/10 (0%)	0/10 (0%)	0/10 (0%)	0/10 (0%)
POLY-3 RATE (b)	0/10.00	0/10.00	0/10.00	0/10.00	0/10.00	0/5.32
POLY-3 PERCENT (g)	0%	0%	0%	0%	0%	0%
TERMINAL (d)	0/10 (0%)	0/10 (0%)	0/10 (0%)	0/10 (0%)	0/10 (0%)	0/4 (0%)
FIRST INCIDENCE	---	---	---	---	---	---

**STATISTICAL TESTS**

LIFE TABLE	(e)	(e)	(e)	(e)	(e)	(e)
POLY 3	(e)	(e)	(e)	(e)	(e)	(e)
POLY 1.5	(e)	(e)	(e)	(e)	(e)	(e)
POLY 6	(e)	(e)	(e)	(e)	(e)	(e)
LOGISTIC REGRESSION	(e)	(e)	(e)	(e)	(e)	(e)
COCH-ARM / FISHERS	(e)	(e)	(e)	(e)	(e)	(e)
ORDER RESTRICTED	(e)	(e)	(e)	(e)	(e)	(e)
MAX-ISO-POLY-3	(e)	(e)	(e)	(e)	(e)	(e)

**STATISTICAL ANALYSIS OF NON-NEOPLASTIC LESIONS IN RATS(F 344)  
 TERMINAL SACRIFICE AT 14 WEEKS**

DOSE	Females					
	CONTROL	25 ppm	50 ppm	100 ppm	200 ppm	400 ppm

**Kidney  
 Casts Granular**

**LESION RATES**

OVERALL (a)	0/10 (0%)	0/10 (0%)	0/10 (0%)	0/10 (0%)	0/10 (0%)	0/10 (0%)
POLY-3 RATE (b)	0/10.00	0/10.00	0/10.00	0/10.00	0/10.00	0/5.32
POLY-3 PERCENT (g)	0%	0%	0%	0%	0%	0%
TERMINAL (d)	0/10 (0%)	0/10 (0%)	0/10 (0%)	0/10 (0%)	0/10 (0%)	0/4 (0%)
FIRST INCIDENCE	---	---	---	---	---	---

**STATISTICAL TESTS**

LIFE TABLE	(e)	(e)	(e)	(e)	(e)	(e)
POLY 3	(e)	(e)	(e)	(e)	(e)	(e)
POLY 1.5	(e)	(e)	(e)	(e)	(e)	(e)
POLY 6	(e)	(e)	(e)	(e)	(e)	(e)
LOGISTIC REGRESSION	(e)	(e)	(e)	(e)	(e)	(e)
COCH-ARM / FISHERS	(e)	(e)	(e)	(e)	(e)	(e)
ORDER RESTRICTED	(e)	(e)	(e)	(e)	(e)	(e)
MAX-ISO-POLY-3	(e)	(e)	(e)	(e)	(e)	(e)

**STATISTICAL ANALYSIS OF NON-NEOPLASTIC LESIONS IN RATS(F 344)  
TERMINAL SACRIFICE AT 14 WEEKS**

DOSE	Females					
	CONTROL	25 ppm	50 ppm	100 ppm	200 ppm	400 ppm

**Kidney  
Nephropathy**

**LESION RATES**

OVERALL (a)	1/10 (10%)	0/10 (0%)	0/10 (0%)	0/10 (0%)	1/10 (10%)	0/10 (0%)
POLY-3 RATE (b)	1/10.00	0/10.00	0/10.00	0/10.00	1/10.00	0/5.32
POLY-3 PERCENT (g)	10%	0%	0%	0%	10%	0%
TERMINAL (d)	1/10 (10%)	0/10 (0%)	0/10 (0%)	0/10 (0%)	1/10 (10%)	0/4 (0%)
FIRST INCIDENCE	93 (T)	---	---	---	93 (T)	---

**STATISTICAL TESTS**

LIFE TABLE	P=0.740	P=0.500N	P=0.500N	P=0.500N	P=0.766	P=0.682N
POLY 3	P=0.603	P=0.500N	P=0.500N	P=0.500N	P=0.760	P=0.614N
POLY 1.5	P=0.629	P=0.500N	P=0.500N	P=0.500N	P=0.760	P=0.587N
POLY 6	P=0.592	P=0.500N	P=0.500N	P=0.500N	P=0.760	P=0.626N
LOGISTIC REGRESSION	P=0.740	(e)	(e)	(e)	P=0.766	(e)
COCH-ARM / FISHERS	P=0.586N	P=0.500N	P=0.500N	P=0.500N	P=0.763N	P=0.500N
ORDER RESTRICTED	P=0.377N	(e)	(e)	(e)	(e)	(e)
MAX-ISO-POLY-3	P=0.470N	(e)	(e)	(e)	(e)	(e)

**STATISTICAL ANALYSIS OF NON-NEOPLASTIC LESIONS IN RATS(F 344)  
TERMINAL SACRIFICE AT 14 WEEKS**

DOSE	Females					
	CONTROL	25 ppm	50 ppm	100 ppm	200 ppm	400 ppm

**Lung  
Inflammation Chronic**

**LESION RATES**

OVERALL (a)	4/10 (40%)	0/0 (0%)	0/0 (0%)	0/0 (0%)	2/10 (20%)	5/9 (56%)
POLY-3 RATE (b)	4/10.00	0/0.00	0/0.00	0/0.00	2/10.00	5/6.27
POLY-3 PERCENT (g)	40%	0%	0%	0%	20%	79.7%
TERMINAL (d)	4/10 (40%)	0/0 (0%)	0/0 (0%)	0/0 (0%)	2/10 (20%)	3/4 (75%)
FIRST INCIDENCE	93 (T)	---	---	---	93 (T)	36

**STATISTICAL TESTS**

LIFE TABLE	P=0.042*	P=1.000	P=1.000	P=1.000	P=0.317N	P=0.089
POLY 3	(e)	(e)	(e)	(e)	P=0.318N	P=0.150
POLY 1.5	(e)	(e)	(e)	(e)	P=0.318N	P=0.207
POLY 6	(e)	(e)	(e)	(e)	P=0.318N	P=0.130
LOGISTIC REGRESSION	P=0.358	(e)	(e)	(e)	P=0.317N	P=0.309
COCH-ARM / FISHERS	P=0.339	P=1.000	P=1.000	P=1.000	P=0.314N	P=0.414
ORDER RESTRICTED	(e)	(e)	(e)	(e)	(e)	(e)
MAX-ISO-POLY-3	(e)	(e)	(e)	(e)	(e)	(e)

**STATISTICAL ANALYSIS OF NON-NEOPLASTIC LESIONS IN RATS(F 344)  
TERMINAL SACRIFICE AT 14 WEEKS**

DOSE	Females					
	CONTROL	25 ppm	50 ppm	100 ppm	200 ppm	400 ppm

**Mesentery: Fat  
Necrosis**

**LESION RATES**

OVERALL (a)	1/1 (100%)	1/1 (100%)	3/3 (100%)	0/0 (0%)	0/0 (0%)	0/0 (0%)
POLY-3 RATE (b)	1/1.00	1/1.00	3/3.00	0/0.00	0/0.00	0/0.00
POLY-3 PERCENT (g)	100%	100%	100%	0%	0%	0%
TERMINAL (d)	1/1 (100%)	1/1 (100%)	3/3 (100%)	0/0 (0%)	0/0 (0%)	0/0 (0%)
FIRST INCIDENCE	93 (T)	93 (T)	93 (T)	---	---	---

**STATISTICAL TESTS**

LIFE TABLE	(e)	(e)	(e)	(e)	(e)	(e)
POLY 3	(e)	(e)	(e)	(e)	(e)	(e)
POLY 1.5	(e)	(e)	(e)	(e)	(e)	(e)
POLY 6	(e)	(e)	(e)	(e)	(e)	(e)
LOGISTIC REGRESSION	(e)	(e)	(e)	(e)	(e)	(e)
COCH-ARM / FISHERS	(e)	(e)	(e)	(e)	(e)	(e)
ORDER RESTRICTED	(e)	(e)	(e)	(e)	(e)	(e)
MAX-ISO-POLY-3	(e)	(e)	(e)	(e)	(e)	(e)

TDMS No. 20302-03

Test Type: 90-DAY

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: RATS/F 344

**P10: STATISTICAL ANALYSIS OF NON-NEOPLASTIC LESIONS**

ALPHA-PINENE

CAS Number: 80-56-8

Pathologist: RENNE, R. - GRUMBEIN, S. - LIEUALLEN, W.

Date Report Requested: 11/17/2006

Time Report Requested: 7:32:51

First Dose M/F: 03/28/05 / 03/29/05

Lab: BNW

**LEGEND**

- (a) Number of tumor-bearing animals/number of animals examined at site.
  - (b) Number of tumor-bearing animals/Poly-3 number
  - (d) Observed incidence at terminal kill.
  - (f) Beneath the control incidence are the P-values associated with the trend test. Beneath the dosed group incidence are the P-values corresponding to pairwise comparisons between the controls and that dosed group. The life table analysis regards tumors in animals dying prior to terminal kill as being (directly or indirectly) the cause of death.
  - (e) Value of Statistic cannot be computed.
  - (g) Poly-3 adjusted lifetime tumor incidence.
  - (I) Interim sacrifice
  - (T) Terminal sacrifice
  - # Tumor rates based on numbers of animals necropsied.
  - \* To the right of any statistical result, indicates significance at ( $P \leq 0.05$ ).
  - \*\* To the right of any statistical result, indicates significance at ( $P \leq 0.01$ ).
  - N Indicates a negative trend for all tests
- Logistic regression is an alternative method for analyzing the incidence of non-fatal tumors.  
The Cochran-Armitage and Fishers exact tests compare directly the overall incidence rates.

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