Test Type: 14-DAY
Route: DOSED WATER
Species/Strain: RATS/HSD

Study Gender:

P10: STATISTICAL ANALYSIS OF NON-NEOPLASTIC LESIONS

Ionic liquid Toxicity

CAS Number: IONICLIQUIDS

Include 009 1.0 mg/ml Bmpy

Include 015 Control Female

Include 025 6.0 mg/ml Bmpy

Date Report Requested: 04/24/2020 **Time Report Requested:** 12:09:03 **First Dose M/F:** 03/09/09 / 03/10/09

Lab: MBA

NTP Study Number: C05049

Lock Date: 12/04/2009

Cage Range: ALL

Date Range: ALL

Reasons For Removal: ALL

Removal Date Range: ALL

Treatment Groups: Include 001 Control Male

Include 011 6.0 mg/ml Bmpy

Include 024 3.0 mg/ml Bmpy

Both

TDMSE Version: 3.0.2.3_002

PWG Approval Date: NONE

Include 010 3.0 mg/ml Bmpy

Include 023 1.0 mg/ml Bmpy

Test Type: 14-DAY
Route: DOSED WATER
Species/Strain: RATS/HSD

P10: STATISTICAL ANALYSIS OF NON-NEOPLASTIC LESIONS

Ionic liquid Toxicity

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Date Report Requested: 04/24/2020 **Time Report Requested:** 12:09:03 **First Dose M/F:** 03/09/09 / 03/10/09

Lab: MBA

SUMMARY OF STATISTICALLY SIGNIFICANT (P<=.05) RESULTS IN THE ANALYSIS OF IONIC LIQUID TOXICITY

MALE RATS

Organ Morphology

Liver Depletion Glycogen

Test Type: 14-DAY
Route: DOSED WATER
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Date Report Requested: 04/24/2020 **Time Report Requested:** 12:09:03 **First Dose M/F:** 03/09/09 / 03/10/09

Lab: MBA

Males				
DOSE	Control Male	1.0 mg/ml Bmpy	3.0 mg/ml Bmpy	6.0 mg/ml Bmpy
Heart Cardiomyopathy				
LESION RATES				
OVERALL (a)	8/10 (80%)	0/0 (0%)	0/0 (0%)	5/5 (100%)
POLY-3 RATE (b)	8/10.00	0/0.00	0/0.00	5/5.00
POLY-3 PERCENT (g)	80%	0%	0%	100%
TERMINAL (d)	8/10 (80%)	0/0 (0%)	0/0 (0%)	5/5 (100%)
FIRST INCIDENCE	15 (T)			15 (T)
STATISTICAL TESTS				
POLY 3	(e)	(e)	(e)	P=0.397
POLY 1.5	(e)	(e)	(e)	P=0.397
POLY 6	(e)	(e)	(e)	P=0.397
COCH-ARM / FISHERS	P=0.251	(e)	(e)	P=0.429
MAX-ISO-POLY-3	(e)	(e)	(e)	P=0.183

Test Type: 14-DAY
Route: DOSED WATER
Species/Strain: RATS/HSD

P10: STATISTICAL ANALYSIS OF NON-NEOPLASTIC LESIONS

Ionic liquid Toxicity

CAS Number: IONICLIQUIDS

Date Report Requested: 04/24/2020 **Time Report Requested:** 12:09:03 **First Dose M/F:** 03/09/09 / 03/10/09

Lab: MBA

	Males					
DOSE	Control Male	1.0 mg/ml Bmpy	3.0 mg/ml Bmpy	6.0 mg/ml Bmpy		
Liver						
Depletion Glycogen						
LESION RATES						
OVERALL (a)	0/10 (0%)	0/0 (0%)	0/5 (0%)	5/5 (100%)		
POLY-3 RATE (b)	0/10.00	0/0.00	0/5.00	5/5.00		
POLY-3 PERCENT (g)	0%	0%	0%	100%		
TERMINAL (d)	0/10 (0%)	0/0 (0%)	0/5 (0%)	5/5 (100%)		
FIRST INCIDENCE				15 (T)		
STATISTICAL TESTS						
POLY 3	(e)	(e)	(e)	P<0.001**		
POLY 1.5	(e)	(e)	(e)	P<0.001**		
POLY 6	(e)	(e)	(e)	P<0.001**		
COCH-ARM / FISHERS	P<0.001**	(e)	(e)	P<0.001**		
MAX-ISO-POLY-3	(e)	(e)	(e)	P<0.001**		

Test Type: 14-DAY
Route: DOSED WATER
Species/Strain: RATS/HSD

P10: STATISTICAL ANALYSIS OF NON-NEOPLASTIC LESIONS

Ionic liquid Toxicity

CAS Number: IONICLIQUIDS

Date Report Requested: 04/24/2020 **Time Report Requested:** 12:09:03 **First Dose M/F:** 03/09/09 / 03/10/09

Lab: MBA

Males				
DOSE	Control Male	1.0 mg/ml Bmpy	3.0 mg/ml Bmpy	6.0 mg/ml Bmpy
Lung Metaplasia Osseous				
LESION RATES				
OVERALL (a)	1/10 (10%)	0/0 (0%)	0/0 (0%)	0/5 (0%)
POLY-3 RATE (b)	1/10.00	0/0.00	0/0.00	0/5.00
POLY-3 PERCENT (g)	10%	0%	0%	0%
TERMINAL (d)	1/10 (10%)	0/0 (0%)	0/0 (0%)	0/5 (0%)
FIRST INCIDENCE	15 (T)			
STATISTICAL TESTS				
POLY 3	(e)	(e)	(e)	P=0.636N
POLY 1.5	(e)	(e)	(e)	P=0.636N
POLY 6	(e)	(e)	(e)	P=0.636N
COCH-ARM / FISHERS	P=0.427N	(e)	(e)	P=0.667N
MAX-ISO-POLY-3	(e)	(e)	(e)	P=0.274N

Test Type: 14-DAY
Route: DOSED WATER
Species/Strain: RATS/HSD

P10: STATISTICAL ANALYSIS OF NON-NEOPLASTIC LESIONS

Ionic liquid Toxicity

CAS Number: IONICLIQUIDS

Date Report Requested: 04/24/2020 **Time Report Requested:** 12:09:03 **First Dose M/F:** 03/09/09 / 03/10/09

Lab: MBA

Females					
DOSE	Control Female	1.0 mg/ml Bmpy	3.0 mg/ml Bmpy	6.0 mg/ml Bmpy	
Heart Cardiomyopathy					
LESION RATES					
OVERALL (a)	10/10 (100%)	0/0 (0%)	0/0 (0%)	5/5 (100%)	
POLY-3 RATE (b)	10/10.00	0/0.00	0/0.00	5/5.00	
POLY-3 PERCENT (g)	100%	0%	0%	100%	
TERMINAL (d)	10/10 (100%)	0/0 (0%)	0/0 (0%)	5/5 (100%)	
FIRST INCIDENCE	15 (T)			15 (T)	
STATISTICAL TESTS					
POLY 3	(e)	(e)	(e)	(e)	
POLY 1.5	(e)	(e)	(e)	(e)	
POLY 6	(e)	(e)	(e)	(e)	
COCH-ARM / FISHERS	(e)	(e)	(e)	(e)	
MAX-ISO-POLY-3	(e)	(e)	(e)	(e)	

Test Type: 14-DAY
Route: DOSED WATER
Species/Strain: RATS/HSD

P10: STATISTICAL ANALYSIS OF NON-NEOPLASTIC LESIONS

Ionic liquid Toxicity

CAS Number: IONICLIQUIDS

Date Report Requested: 04/24/2020 **Time Report Requested:** 12:09:03 **First Dose M/F:** 03/09/09 / 03/10/09

Lab: MBA

	Females				
DOSE	Control Female	1.0 mg/ml Bmpy	3.0 mg/ml Bmpy	6.0 mg/ml Bmpy	
Liver Depletion Glycogen					
LESION RATES					
OVERALL (a)	0/10 (0%)	0/0 (0%)	0/0 (0%)	0/5 (0%)	
POLY-3 RATE (b)	0/10.00	0/0.00	0/0.00	0/5.00	
POLY-3 PERCENT (g)	0%	0%	0%	0%	
TERMINAL (d)	0/10 (0%)	0/0 (0%)	0/0 (0%)	0/5 (0%)	
FIRST INCIDENCE					
STATISTICAL TESTS					
POLY 3	(n)	(n)	(n)	(n)	
POLY 1.5	(n)	(n)	(n)	(n)	
POLY 6	(n)	(n)	(n)	(n)	
COCH-ARM / FISHERS	(n)	(n)	(n)	(n)	
MAX-ISO-POLY-3	(n)	(n)	(n)	(n)	

Test Type: 14-DAY
Route: DOSED WATER
Species/Strain: RATS/HSD

P10: STATISTICAL ANALYSIS OF NON-NEOPLASTIC LESIONS

Ionic liquid Toxicity

CAS Number: IONICLIQUIDS

Date Report Requested: 04/24/2020 **Time Report Requested:** 12:09:03 **First Dose M/F:** 03/09/09 / 03/10/09

Lab: MBA

Females				
DOSE	Control Female	1.0 mg/ml Bmpy	3.0 mg/ml Bmpy	6.0 mg/ml Bmpy
Lung Metaplasia Osseous				
LESION RATES				
OVERALL (a)	0/10 (0%)	0/0 (0%)	0/0 (0%)	0/5 (0%)
POLY-3 RATE (b)	0/10.00	0/0.00	0/0.00	0/5.00
POLY-3 PERCENT (g)	0%	0%	0%	0%
TERMINAL (d)	0/10 (0%)	0/0 (0%)	0/0 (0%)	0/5 (0%)
FIRST INCIDENCE				,
STATISTICAL TESTS				
POLY 3	(n)	(n)	(n)	(n)
POLY 1.5	(n)	(n)	(n)	(n)
POLY 6	(n)	(n)	(n)	(n)
COCH-ARM / FISHERS	(n)	(n)	(n)	(n)
MAX-ISO-POLY-3	(n)	(n)	(n)	(n)

Test Type: 14-DAY
Route: DOSED WATER
Species/Strain: RATS/HSD

P10: STATISTICAL ANALYSIS OF NON-NEOPLASTIC LESIONS

Ionic liquid Toxicity

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Lab: MBA

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.
- (e) Value of statistic cannot be computed.
- (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.
- (g) Poly-3 adjusted lifetime tumor incidence.
- (n) No statistics are calculated if all dose groups have fewer than two tumors.
- (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<=0.05).</p>
- ** To the right of any statistical result, indicates significance at (P<=0.01).
- N Indicates a negative trend for all tests
 - The Cochran-Armitage and Fishers exact tests compare directly the overall incidence rates.

*** END OF REPORT ***