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

Study Gender:

P09: NON-NEOPLASTIC LESIONS BY INDIVIDUAL ANIMAL

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

P09: NON-NEOPLASTIC LESIONS BY INDIVIDUAL ANIMAL

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

		1	1		_						
DAY ON TEST	0	0	0	0	0	0	0	0	0	0	
HARLAN SPRAGUE DAWLEY RATS	1 5	1 5	1 5	1 5	1 5	1 5	1 5	1 5	1 5	1 5	
MALE											-
Control Male ANIMAL ID	0 0	0 0 0	0	0	0	0	0	0	0	0	
	0	0 2	0 0 3	0 0 4	0 0 5	0 0 6	0 0 7	0 0 8	0	0	
			3	4	Э	6	_ /	0	9	0	* TOTALS
ALIMENTARY SYSTEM											
Intestine Small, Duodenum	+	+	+	+	+	+	+	+	+	+	10
Intestine Small, Ileum	+	+	+	+	+	+	+	+	+	+	10
Intestine Small, Jejunum	+	+	+	+	+	+	+	+	+	+	10
Liver	+	+	+	+	+	+	+	+	+	+	10
Stomach, Forestomach	+	+	+	+	+	+	+	+	+	+	10
Stomach, Glandular	+	+	+	+	+	+	+	+	+	+	10
CARDIOVASCULAR SYSTEM											
Heart Cardiomyopathy	+	+	+	+ 1	+ 1	+	+	+ 1	+ 1	+ 1	10 8 1.0
ENDOCRINE SYSTEM		-									
NONE											
GENERAL BODY SYSTEM		_									
NONE											
GENITAL SYSTEM											
Testes	+	+	+	+	+	+	+	+	+	+	10

^{* ..} Total animals with tissue examined microscopically; Total animals with lesion and mean severity grade

^{+ ..} Tissue examined microscopically

X .. Lesion present

I .. Insufficient tissue

M .. Missing tissue

A .. Autolysis precludes evaluation BLANK .. Not examined microscopically

^{1-4 ..} Lesion qualified as:

¹⁾ Minimal 3) Moderate 4) Marked

²⁾ Mild

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

P09: NON-NEOPLASTIC LESIONS BY INDIVIDUAL ANIMAL

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

DAY ON TEST HARLAN SPRAGUE DAWLEY RATS MALE	0 0 1 5	0 0 1 5	0 0 1 5	0 0 1 5	0 0 1 5	0 0 1 5	0 0 1 5	0 0 1 5	0 0 1 5	0 0 1 5	
Control Male ANIMAL ID	0 0 0 0 1	0 0 0 0 2	0 0 0 0 0 3	0 0 0 0 0 4	0 0 0 0 5	0 0 0 0 6	0 0 0 0 7	0 0 0 0 8	0 0 0 0 9	0 0 0 1 0	* T(
HEMATOPOIETIC SYSTEM		-		-	-	-	-				
Spleen	+	+	+	+	+	+	+	+	+	+	10
Thymus	+	+	+	+	+	+	+	+	+	+	10
INTEGUMENTARY SYSTEM				•					•		
NONE											
MUSCULOSKELETAL SYSTEM											
NONE											
NERVOUS SYSTEM											
Brain	+	+	+	+	+	+	+	+	+	+	10
RESPIRATORY SYSTEM											
Lung Metaplasia, Osseous	+	+	+	+	+	+	+	+	+	+	10
SPECIAL SENSES SYSTEM											
NONE											
URINARY SYSTEM											

^{* ..} Total animals with tissue examined microscopically; Total animals with lesion and mean severity grade

^{+ ..} Tissue examined microscopically

M .. Missing tissue

X .. Lesion present I .. Insufficient tissue

A .. Autolysis precludes evaluation BLANK .. Not examined microscopically

¹⁾ Minimal 3) Moderate

²⁾ Mild 4) Marked

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

P09: NON-NEOPLASTIC LESIONS BY INDIVIDUAL ANIMAL

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

DAY ON TEST HARLAN SPRAGUE DAWLEY RATS MALE	0 0 1 5	0 0 1 5	0 0 1 5	0 0 1 5	0 0 1 5	
1.0 mg/ml Bmpy ANIMAL ID	0 0 0 4 6	0 0 0 4 7	0 0 0 4 8	0 0 0 4 9	0 0 0 5 0	* TOTALS

ALIMENTARY SYSTEM

NONE

CARDIOVASCULAR SYSTEM

NONE

ENDOCRINE SYSTEM

NONE

GENERAL BODY SYSTEM

NONE

GENITAL SYSTEM

NONE

HEMATOPOIETIC SYSTEM

NONE

INTEGUMENTARY SYSTEM

NONE

MUSCULOSKELETAL SYSTEM

NONE

BLANK .. Not examined microscopically

^{* ..} Total animals with tissue examined microscopically; Total animals with lesion and mean severity grade

^{+ ..} Tissue examined microscopically

M .. Missing tissue

A .. Autolysis precludes evaluation

X .. Lesion presentI .. Insufficient tissue

¹⁾ Minimal 3) Moderate

²⁾ Mild 4) Marked

Test Type: 14-DAY

Route: DOSED WATER Species/Strain: RATS/HSD

P09: NON-NEOPLASTIC LESIONS BY INDIVIDUAL ANIMAL

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

DAY ON TEST HARLAN SPRAGUE DAWLEY RATS MALE	1 7	0 0 1 5	0 0 1 5	0 0 1 5	0 0 1 5	
1.0 mg/ml Bmpy ANIMAL ID	0 0 0 4 6	0 0 0 4 7	0 0 0 4 8	0 0 0 4 9	0 0 0 5 0	* TOTALS
NERVOUS SYSTEM						
NONE						
RESPIRATORY SYSTEM						
NONE						
SPECIAL SENSES SYSTEM						
NONE						
URINARY SYSTEM						
Kidney	+	-	+	_	-	2

^{* ..} Total animals with tissue examined microscopically; Total animals with lesion and mean severity grade

^{+ ..} Tissue examined microscopically

X .. Lesion present

I .. Insufficient tissue

BLANK .. Not examined microscopically

²⁾ Mild

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

P09: NON-NEOPLASTIC LESIONS BY INDIVIDUAL ANIMAL

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

DAY ON TEST	0 0	0 0	0 0	0 0	
HARLAN SPRAGUE DAWLEY RATS MALE	5	5	5	5	
3.0 mg/ml Bmpy ANIMAL ID	0 0 0 5 1	0 0 0 5 2	0 0 0 5 3	0 0 0 5 4	* TOTALS
ALIMENTARY SYSTEM					
Liver	+	+	+	+	5
CARDIOVASCULAR SYSTEM					
NONE					

ENDOCRINE SYSTEM

NONE

GENERAL BODY SYSTEM

NONE

GENITAL SYSTEM

NONE

HEMATOPOIETIC SYSTEM

NONE

INTEGUMENTARY SYSTEM

NONE

MUSCULOSKELETAL SYSTEM

NONE

M .. Missing tissue

A .. Autolysis precludes evaluation BLANK .. Not examined microscopically

1-4 .. Lesion qualified as:

1) Minimal 3) Moderate

2) Mild 4) Marked

^{* ..} Total animals with tissue examined microscopically; Total animals with lesion and mean severity grade

^{+ ..} Tissue examined microscopically

X .. Lesion present

I .. Insufficient tissue

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

P09: NON-NEOPLASTIC LESIONS BY INDIVIDUAL ANIMAL

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

DAY ON TEST HARLAN SPRAGUE DAWLEY RATS MALE	0 0 1 5	0 0 1 5	0 0 1 5	0 0 1 5	0 0 1 5	
3.0 mg/ml Bmpy ANIMAL ID	0 0 0 5 1	0 0 0 5 2	0 0 0 5 3	0 0 0 5 4	0 0 0 5 5	* TOTALS

NERVOUS SYSTEM

NONE

RESPIRATORY SYSTEM

NONE

SPECIAL SENSES SYSTEM

NONE

URINARY SYSTEM

NONE

I .. Insufficient tissue

M .. Missing tissue

A .. Autolysis precludes evaluation

BLANK .. Not examined microscopically

^{* ..} Total animals with tissue examined microscopically; Total animals with lesion and mean severity grade

^{+ ..} Tissue examined microscopically

X .. Lesion present

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

P09: NON-NEOPLASTIC LESIONS BY INDIVIDUAL ANIMAL

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

DAY ON TEST HARLAN SPRAGUE DAWLEY RATS MALE	0 0 1 5	0 0 1 5	0 0 1 5	0 0 1 5	
6.0 mg/ml Bmpy ANIMAL ID	0 0 0 5 6	0 0 0 5 7	0 0 0 5 8	0 0 0 5 9	* TOTALS
ALIMENTARY SYSTEM	·				
Intestine Small, Duodenum	+	+	+	+	5
Intestine Small, Ileum	+	+	+	+	5
Intestine Small, Jejunum	+	+	+	+	5
Liver Depletion Glycogen	+	+ 1	+ 1	+ 1	5 5 1.0
Stomach, Forestomach	+	+	+	+	5
Stomach, Glandular	+	+	+	+	5
CARDIOVASCULAR SYSTEM					
Heart Cardiomyopathy	+	+ 1	+ 1	+ 1	5 5 1.0
ENDOCRINE SYSTEM					
NONE					

GENERAL BODY SYSTEM

NONE

GENITAL SYSTEM

I .. Insufficient tissue

A .. Autolysis precludes evaluation

BLANK .. Not examined microscopically

1-4 .. Lesion qualified as:

1) Minimal 3) Moderate

2) Mild 4

4) Marked

^{* ..} Total animals with tissue examined microscopically; Total animals with lesion and mean severity grade

^{+ ..} Tissue examined microscopically

X .. Lesion present

M .. Missing tissue

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

P09: NON-NEOPLASTIC LESIONS BY INDIVIDUAL ANIMAL

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

DAY ON TEST HARLAN SPRAGUE DAWLEY RATS	0 0 1 5	0 0 1 5	0 0 1 5	0 0 1 5	
MALE		5	5	5	
6.0 mg/ml Bmpy ANIMAL ID	0 0 0 5 6	0 0 0 5 7	0 0 0 5 8	0 0 0 5 9	* TOTALS
Testes	+	+	+	+	5
HEMATOPOIETIC SYSTEM					
Spleen	+	+	+	+	5
Thymus	+	+	+	+	5
INTEGUMENTARY SYSTEM					
NONE					
MUSCULOSKELETAL SYSTEM					
NONE					
NERVOUS SYSTEM					
Brain	+	+	+	+	5
RESPIRATORY SYSTEM					
Lung	+	+	+	+	5
SPECIAL SENSES SYSTEM					
NONE			_		
URINARY SYSTEM					
Kidney	+	+	+	+	5

X .. Lesion present

I .. Insufficient tissue

M .. Missing tissue A .. Autolysis precludes evaluation

BLANK .. Not examined microscopically

1-4 .. Lesion qualified as:

1) Minimal 3) Moderate

2) Mild 4) Marked

^{+ ..} Tissue examined microscopically

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

P09: NON-NEOPLASTIC LESIONS BY INDIVIDUAL ANIMAL

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

*** END OF MALE DATA ***

^{* ..} Total animals with tissue examined microscopically; Total animals with lesion and mean severity grade

^{+ ..} Tissue examined microscopically

X .. Lesion present

I .. Insufficient tissue

M .. Missing tissue

A .. Autolysis precludes evaluation

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

P09: NON-NEOPLASTIC LESIONS BY INDIVIDUAL ANIMAL

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

DAY ON TEST HARLAN SPRAGUE DAWLEY RATS FEMALE	0 0 1 5											
Control Female ANIMAL ID	0 0 0 7 6	0 0 0 7 7	0 0 0 7 8	0 0 0 7 9	0 0 0 8 0	0 0 0 8 1	0 0 0 8 2	0 0 0 8 3	0 0 0 8 4	0 0 0 8 5	*	TOTALS
ALIMENTARY SYSTEM	•		•	•		•				•		
Intestine Small, Duodenum	+	+	+	+	+	+	+	+	+	+		10
Intestine Small, Ileum	+	+	+	+	+	+	+	+	+	+		10
Intestine Small, Jejunum	+	+	+	+	+	+	+	+	+	+		10
Liver	+	+	+	+	+	+	+	+	+	+		10
Stomach, Forestomach	+	+	+	+	+	+	+	+	+	+		10
Stomach, Glandular	+	+	+	+	+	+	+	+	+	+		10
CARDIOVASCULAR SYSTEM												
Heart Cardiomyopathy	+ 1		10 10 1.0									
ENDOCRINE SYSTEM												
NONE												
GENERAL BODY SYSTEM												
NONE			_	-								
GENITAL SYSTEM												
Ovary	+	+	+	+	+	+	+	+	+	+		10

^{* ..} Total animals with tissue examined microscopically; Total animals with lesion and mean severity grade

^{+ ..} Tissue examined microscopically

X .. Lesion present

I .. Insufficient tissue

M .. Missing tissue

A .. Autolysis precludes evaluation

BLANK .. Not examined microscopically

^{1-4 ..} Lesion qualified as:

¹⁾ Minimal 3) Moderate

²⁾ Mild 4) Marked

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

P09: NON-NEOPLASTIC LESIONS BY INDIVIDUAL ANIMAL

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

	_										
DAY ON TEST	0	0	0	0	0	0	0	0	0	0	
HARLAN SPRAGUE DAWLEY RATS	1 5	1 5	1 5	1 5	1 5	1 5	1 5	1 5	1 5	1 5	
FEMALE											
Control Female ANIMAL ID	0	0 0	0	0	0	0	0	0	0	0	
	0 0 7 6	7	0 0 7	0 7 9	0 8 0	0 8	0 8 2	0 8 3	0 8 4	8	
	0		8	9		<u> </u>		3	4	5	* TOTALS
HEMATOPOIETIC SYSTEM											
Spleen	+	+	+	+	+	+	+	+	+	+	10
Thymus	+	+	+	+	+	+	+	+	+	+	10
INTEGUMENTARY SYSTEM											
NONE											
MUSCULOSKELETAL SYSTEM	•									•	
NONE											
NERVOUS SYSTEM											
Brain	+	+	+	+	+	+	+	+	+	+	10
RESPIRATORY SYSTEM											
Lung	+	+	+	+	+	+	+	+	+	+	10
SPECIAL SENSES SYSTEM											
NONE											
URINARY SYSTEM											
Kidney	+	+	+	+	+	+	+	+	+	+	10

^{* ..} Total animals with tissue examined microscopically; Total animals with lesion and mean severity grade

^{+ ..} Tissue examined microscopically

X .. Lesion present

I .. Insufficient tissue

M .. Missing tissue

A .. Autolysis precludes evaluation BLANK .. Not examined microscopically

^{1-4 ..} Lesion qualified as:1) Minimal 3) Moderate

²⁾ Mild 4) Marked

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

P09: NON-NEOPLASTIC LESIONS BY INDIVIDUAL ANIMAL

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

DAY ON TEST HARLAN SPRAGUE DAWLEY RATS FEMALE	0 0 1 5	0 0 1 5	0 0 1 5	0 0 1 5	
6.0 mg/ml Bmpy ANIMAL ID	0 0 1 3 1	0 0 1 3 2	0 0 1 3 3	0 0 1 3 4	* TOTALS
ALIMENTARY SYSTEM					
Intestine Small, Duodenum	+	+	+	+	5
Intestine Small, Ileum	+	+	+	+	5
Intestine Small, Jejunum	+	+	+	+	5
Liver	+	+	+	+	5
Stomach, Forestomach	+	+	+	+	5
Stomach, Glandular	+	+	+	+	5
CARDIOVASCULAR SYSTEM					
Heart Cardiomyopathy	+ 1	+ 1	+ 1	+ 1	5 5 1.0
ENDOCRINE SYSTEM					
NONE	•		•		
GENERAL BODY SYSTEM					
NONE		-			
GENITAL SYSTEM					
Ovary	+	+	+	+	5

^{* ..} Total animals with tissue examined microscopically; Total animals with lesion and mean severity grade

^{+ ..} Tissue examined microscopically

X .. Lesion present

I .. Insufficient tissue

M .. Missing tissue

A .. Autolysis precludes evaluation

BLANK .. Not examined microscopically

^{1-4 ..} Lesion qualified as:

¹⁾ Minimal 3) Moderate

²⁾ Mild 4) Marked

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

P09: NON-NEOPLASTIC LESIONS BY INDIVIDUAL ANIMAL

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

DAY ON TEST HARLAN SPRAGUE DAWLEY RATS	0 0 1	0 0 1	0 0 1	0 0 1	0 0 1	
FEMALE	5	5	5	5	5	<u> </u>
6.0 mg/ml Bmpy ANIMAL ID	0 0 1 3 1	0 0 1 3 2	0 0 1 3 3	0 0 1 3 4	0 0 1 3 5	* TOTALS
HEMATOPOIETIC SYSTEM				-	-	
Spleen	+	+	+	+	+	5
Thymus	+	+	+	+	+	5
INTEGUMENTARY SYSTEM						
NONE						
MUSCULOSKELETAL SYSTEM						
NONE						
NERVOUS SYSTEM						
Brain	+	+	+	+	+	5
RESPIRATORY SYSTEM						
Lung	+	+	+	+	+	5
SPECIAL SENSES SYSTEM						
NONE				_	_	
URINARY SYSTEM						
Kidney	+			+	_	5

^{* ..} Total animals with tissue examined microscopically; Total animals with lesion and mean severity grade

^{+ ..} Tissue examined microscopically

X .. Lesion present

I .. Insufficient tissue

M .. Missing tissue

A .. Autolysis precludes evaluation BLANK .. Not examined microscopically

^{1-4 ..} Lesion qualified as:

¹⁾ Minimal 3) Moderate

²⁾ Mild

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

P09: NON-NEOPLASTIC LESIONS BY INDIVIDUAL ANIMAL

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

*** END OF REPORT ***

^{* ..} Total animals with tissue examined microscopically; Total animals with lesion and mean severity grade

^{+ ..} Tissue examined microscopically

X .. Lesion present

I .. Insufficient tissue

M .. Missing tissue

A .. Autolysis precludes evaluation

BLANK .. Not examined microscopically