Species/Strain: Mouse/CD-1 CRL

P18: INCIDENCE RATES OF NON-NEOPLASTIC LESIONS BY ANATOMIC SITE (a) WITH Date Report Requested: 10/19/2014 AVERAGE SEVERITY GRADES[b]

Test Compound: Init/prom comparative mouse study (DMBA/TPA/BPO/MNNG)

CAS Number: INIT/PROM

Time Report Requested: 17:40:24

First Dose M/F: NA / NA

Lab: BAT

C Number: C61994B

Lock Date: 04/09/1992

Cage Range: ΑII

Date Range: ΑII

Reasons For Removal: ΑII

Removal Date Range: ΑII

Treatment Groups: ΑII

Study Gender: Both

PWG Approval Date 04/28/1994

Species/Strain: Mouse/CD-1 CRL

Route: SKIN APPLICATION

P18: INCIDENCE RATES OF NON-NEOPLASTIC LESIONS BY ANATOMIC SITE (a) WITH AVERAGE SEVERITY GRADES[b] Date Report Requested: 10/19/2014 Time Report Requested: 17:40:24

Test Compound: Init/prom comparative mouse study (DMBA/TPA/BPO/MNNG)

CAS Number: INIT/PROM

Time Report Requested: 17:40:24

First Dose M/F: NA / NA

CD-1 CRL Mouse MALE	VEHICLE CONTROL	MNNG 100/ACETONE	MNNG 500/ACETONE	MNNG1000/ACETON E	TPA 5 COMPLETE	MNNG100/COMPLET
Disposition Summary		100/ACETONE	500/ACETONE			E
Animals Initially In Study Early Deaths	30	30	30	30	30	30
Moribund Sacrifice Natural Death	3	1 1	12 1	19 2	11 2	15 1
Survivors Terminal Sacrifice	27	28	17	9	17	14
Animals Examined Microscopically	30	30	30	30	30	30
ALIMENTARY SYSTEM None						
CARDIOVASCULAR SYSTEM None						
ENDOCRINE SYSTEM None						
GENERAL BODY SYSTEM None						
GENITAL SYSTEM None						
HEMATOPOIETIC SYSTEM None						
INTEGUMENTARY SYSTEM Skin Acanthosis	(27)	(22)	(15) 1 [3.0]	(14) 3 [3.7]	(9)	(7) 1 [3.0]
Alopecia Inflammation, Chronic Active	2 [4.0]	2 [3.5]	7 [3.6]	10 [3.2]	5 [3.4]	5 [3.2]

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

b - Average severity grade (1-minimal; 2-mild; 3-moderate; 4-marked)

Species/Strain: Mouse/CD-1 CRL

Route: SKIN APPLICATION

P18: INCIDENCE RATES OF NON-NEOPLASTIC LESIONS BY ANATOMIC SITE (a) WITH Date Report Requested: 10/19/2014 AVERAGE SEVERITY GRADES[b] Time Report Requested: 17:40:24

Test Compound: Init/prom comparative mouse study (DMBA/TPA/BPO/MNNG)

CAS Number: INIT/PROM

Time Report Requested: 17:40:24

First Dose M/F: NA / NA

Lab: BAT

	100/ACETONE	500/ACETONE	E		MNNG100/COMPLET E
			1 [4.0]		
2 [4.0]	2 [3.5]	7 [3.9]	9 [3.4]	8 [3.1]	6 [3.2]
(0)	(0)	(0)	(2)	(12)	(16)
			2 [2.5]	12 [1.8]	15 [1.5]
				3 [1.3]	5 [1.8]
(0)	(1)	(4)	(13)	(5)	(21)
	1 [1.0]		2 [2.5]	1 [2.0]	2 [2.5]
		1 [2.0]			
(4)	(8)	(18)	(23)	(30)	(29)
4 [2.5]	7 [2.0]	13 [2.0]	16 [2.5]	30 [2.6]	29 [2.1]
2 [3.5]	2 [3.0]	13 [2.8]	21 [2.5]	24 [2.0]	19 [1.9]
2 [3.5]	3 [2.7]	9 [3.3]	9 [3.6]	8 [3.1]	9 [3.1]
_	(0) (0) (4) 4 [2.5] 2 [3.5]	(0) (0) (0) (1) 1 [1.0] (4) (8) 4 [2.5] 7 [2.0] 2 [3.5] 2 [3.0]	(0) (0) (0) (0) (0) (0) (0) (0) (1) (4) (4) (1) [1.0] (1) [2.0] (4) (8) (18) (18) (4) [2.5] (7 [2.0] 13 [2.0] (2 [3.5] 2 [3.0] 13 [2.8]	2 [4.0] 2 [3.5] 7 [3.9] 9 [3.4] (0) (0) (2) 2 [2.5] (0) (1) (4) (13) 2 [2.5] (10) (10) (10) (20) (20) (20) (20) (20) (20) (20) (2	2 [4.0] 2 [3.5] 7 [3.9] 9 [3.4] 8 [3.1] (0) (0) (2) (12) 2 [2.5] 12 [1.8] 3 [1.3] (0) (1) (4) (13) (5) 1 [1.0] 2 [2.5] 1 [2.0] (4) (8) (18) (23) (30) 4 [2.5] 7 [2.0] 13 [2.0] 16 [2.5] 30 [2.6] 2 [3.5] 2 [3.0] 13 [2.8] 21 [2.5] 24 [2.0]

RESPIRATORY SYSTEM

None

None

None

SPECIAL SENSES SYSTEM

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

b - Average severity grade (1-minimal; 2-mild; 3-moderate; 4-marked)

Species/Strain: Mouse/CD-1 CRL

P18: INCIDENCE RATES OF NON-NEOPLASTIC LESIONS BY ANATOMIC SITE (a) WITH AVERAGE SEVERITY GRADES[b]

Date Report Requested: 10/19/2014
Time Report Requested: 17:40:24

Test Compound: Init/prom comparative mouse study (DMBA/TPA/BPO/MNNG)

CAS Number: INIT/PROM

Time Report Requested: 17:40:24

First Dose M/F: NA / NA

CD-1 CRL Mouse MALE	VEHICLE CONTROL	MNNG 100/ACETONE	MNNG 500/ACETONE	MNNG1000/ACETON E	TPA 5 COMPLETE	MNNG100/COMPLET
URINARY SYSTEM None						

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

b - Average severity grade (1-minimal; 2-mild; 3-moderate; 4-marked)

Species/Strain: Mouse/CD-1 CRL

Route: SKIN APPLICATION

P18: INCIDENCE RATES OF NON-NEOPLASTIC LESIONS BY ANATOMIC SITE (a) WITH AVERAGE SEVERITY GRADES[b]

Date Report Requested: 10/19/2014
Time Report Requested: 17:40:24

Test Compound: Init/prom comparative mouse study (DMBA/TPA/BPO/MNNG)

CAS Number: INIT/PROM

Time Report Requested: 17:40:24

First Dose M/F: NA / NA

	·					-
CD-1 CRL Mouse MALE	BPO 20 COMPLETE	MNNG 100/BPO 20	MNNG 500/BPO 20	MNNG1000/BPO 20	MNNG 100/TPA 5	MNNG1000/TPA 5
Disposition Summary						
Animals Initially In Study	30	30	30	30	30	30
Early Deaths						
Moribund Sacrifice	9	3	9	17	17	22
Natural Death	1	1	3	5	3	4
Survivors						
Terminal Sacrifice	20	26	18	8	10	4
Animals Examined Microscopically	30	30	30	30	30	30
ALIMENTARY SYSTEM None						
CARDIOVASCULAR SYSTEM None						
ENDOCRINE SYSTEM None						
GENERAL BODY SYSTEM None						
GENITAL SYSTEM None						
HEMATOPOIETIC SYSTEM None						
INTEGUMENTARY SYSTEM						
Skin	(13)	(10)	(7)	(14)	(14)	(12)
Acanthosis	1 [3.0]	()	2 [2.0]	2 [2.0]	2 [4.0]	2 [4.0]
Alopecia	r1		2	1	1 -1	r - 1
Inflammation, Chronic Active Subcut Tiss, Edema	9 [2.9]	6 [3.0]	6 [3.7]	20 [3.3]	24 [3.1]	20 [3.1] 2 [4.0]

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

b - Average severity grade (1-minimal; 2-mild; 3-moderate; 4-marked)

Species/Strain: Mouse/CD-1 CRL

Route: SKIN APPLICATION

P18: INCIDENCE RATES OF NON-NEOPLASTIC LESIONS BY ANATOMIC SITE (a) WITH

AVERAGE SEVERITY GRADES[b]

Date Report Requested: 10/19/2014

Time Report Requested: 17:40:24

Test Compound: Init/prom comparative mouse study (DMBA/TPA/BPO/MNNG)

CAS Number: INIT/PROM

Time Report Requested: 17:40:24

First Dose M/F: NA / NA

Lab: BAT

CD-1 CRL Mouse MALE	BPO 20 COMPLETE	MNNG 100/BPO 20	MNNG 500/BPO 20	MNNG1000/BPO 20	MNNG 100/TPA 5	MNNG1000/TPA 5
Subcut Tiss, Infiltration Cellular, Mixed Cell						2 [3.0]
Ulcer	9 [3.6]	6 [3.3]	10 [3.6]	22 [3.6]	26 [3.2]	20 [3.2]
Skin, Control	(8)	(4)	(2)	(11)	(21)	(15)
Acanthosis	8 [1.5]	8 [1.3]	4 [1.5]	22 [1.5]	42 [2.0]	28 [2.2]
Inflammation, Chronic Active	5 [1.2]		2 [1.0]	10 [1.0]	36 [1.2]	24 [1.1]
Ulcer						2 [1.0]
Skin, SOA-Mass	(1)	(1)	(5)	(16)	(10)	(20)
Acanthosis	1 [2.0]					
Hyperplasia, Mast Cell						
Sebaceous GI, Hyperplasia			2 [1.0]			
Ulcer						2 [4.0]
Skin, SOA-No Mass	(25)	(23)	(27)	(28)	(30)	(29)
Acanthosis	25 [1.7]	44 [1.5]	50 [2.0]	50 [2.4]	58 [2.9]	56 [2.6]
Hair Follicle, Cyst				2		4
Hemorrhage				2 [2.0]		
Inflammation, Chronic Active	15 [1.4]	22 [1.9]	40 [1.9]	40 [2.3]	56 [2.1]	50 [2.2]
Ulcer	3 [3.3]	14 [2.9]	16 [2.8]	20 [3.2]	22 [3.1]	16 [3.5]

MUSCULOSKELETAL SYSTEM

None

NERVOUS SYSTEM

None

RESPIRATORY SYSTEM

None

SPECIAL SENSES SYSTEM

None

URINARY SYSTEM

None

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

b - Average severity grade (1-minimal; 2-mild; 3-moderate; 4-marked)

Route: SKIN APPLICATION

Species/Strain: Mouse/CD-1 CRL

P18: INCIDENCE RATES OF NON-NEOPLASTIC LESIONS BY ANATOMIC SITE (a) WITH Date Report Requested: 10/19/2014 AVERAGE SEVERITY GRADES[b]

Test Compound: Init/prom comparative mouse study (DMBA/TPA/BPO/MNNG)

CAS Number: INIT/PROM

Time Report Requested: 17:40:24

First Dose M/F: NA / NA

Lab: BAT

CD-1 CRL Mouse MALE

BPO 20 COMPLETE MNNG 100/BPO 20

MNNG 500/BPO 20

MNNG1000/BPO 20

MNNG 100/TPA 5

MNNG1000/TPA 5

END OF MALE DATA

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

b - Average severity grade (1-minimal; 2-mild; 3-moderate; 4-marked)

Species/Strain: Mouse/CD-1 CRL

Route: SKIN APPLICATION

P18: INCIDENCE RATES OF NON-NEOPLASTIC LESIONS BY ANATOMIC SITE (a) WITH AVERAGE SEVERITY GRADES[b] Date Report Requested: 10/19/2014 Time Report Requested: 17:40:24

Test Compound: Init/prom comparative mouse study (DMBA/TPA/BPO/MNNG)

CAS Number: INIT/PROM

Time Report Requested: 17:40:24

First Dose M/F: NA / NA

CD-1 CRL Mouse FEMALE	VEHICLE CONTROL	MNNG 100/ACETONE	MNNG 500/ACETONE	MNNG1000/ACETON E	TPA 5 COMPLETE	MNNG100/COMPLET E
Disposition Summary						
Animals Initially In Study	30	30	30	30	30	30
Early Deaths						
Moribund Sacrifice	2	1	2	13	4	9
Natural Death	1		1	2	1	2
Survivors						
Terminal Sacrifice	27	29	26	15	23	19
Other	••	22	1	20	2	00
Animals Examined Microscopically	30	30	29	30	28	30
ALIMENTARY SYSTEM None						
CARDIOVASCULAR SYSTEM None						
ENDOCRINE SYSTEM None						
GENERAL BODY SYSTEM None						
GENITAL SYSTEM None						
HEMATOPOIETIC SYSTEM None						
INTEGUMENTARY SYSTEM						
Skin Acanthosis Alopecia	(29)	(21)	(10)	(8) 2 [3.5] 1	(4) 1 [2.0]	(4)

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

b - Average severity grade (1-minimal; 2-mild; 3-moderate; 4-marked)

Species/Strain: Mouse/CD-1 CRL

P18: INCIDENCE RATES OF NON-NEOPLASTIC LESIONS BY ANATOMIC SITE (a) WITH Date Report Requested: 10/19/2014 AVERAGE SEVERITY GRADES[b] Time Report Requested: 17:40:24

Test Compound: Init/prom comparative mouse study (DMBA/TPA/BPO/MNNG)

CAS Number: INIT/PROM

Time Report Requested: 17:40:24

First Dose M/F: NA / NA

Lab: BAT

CD-1 CRL Mouse FEMALE	VEHICLE CONTROL	MNNG 100/ACETONE	MNNG 500/ACETONE	MNNG1000/ACETON E	TPA 5 COMPLETE	MNNG100/COMPLET E
Hair Follicle, Cyst						
Inflammation, Chronic Active	1 [4.0]			7 [3.6]		1 [3.0]
Subcut Tiss, Infiltration Cellular, Mixed Cell				1 [3.0]		
Ulcer	1 [4.0]			7 [3.6]	2 [3.5]	3 [3.0]
Skin, Control	(0)	(0)	(4)	(2)	(18)	(22)
Acanthosis			4 [1.0]	1 [2.0]	18 [2.1]	22 [1.5]
Inflammation, Chronic Active			3 [1.0]	1 [2.0]	13 [1.2]	17 [1.3]
Ulcer				1 [4.0]		
Skin, SOA-Mass	(0)	(0)	(7)	(9)	(5)	(20)
Acanthosis			1 [3.0]		1 [3.0]	1 [4.0]
Ulcer						
Skin, SOA-No Mass	(2)	(9)	(14)	(26)	(28)	(27)
Acanthosis	2 [2.5]	7 [1.3]	14 [1.5]	22 [1.7]	27 [2.4]	27 [2.0]
Hair Follicle, Cyst			2	2		
Hemorrhage						1 [3.0]
Inflammation, Chronic Active	1 [3.0]	6 [1.2]	13 [1.2]	19 [2.3]	25 [2.1]	27 [1.9]
Ulcer	1 [3.0]	1 [2.0]	2 [3.0]	6 [3.3]	7 [3.4]	7 [3.0]
MUSCULOSKELETAL SYSTEM						
None						
NERVOUS SYSTEM None						

URINARY SYSTEM

None

None

RESPIRATORY SYSTEM

SPECIAL SENSES SYSTEM

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

b - Average severity grade (1-minimal; 2-mild; 3-moderate; 4-marked)

Route: SKIN APPLICATION Species/Strain: Mouse/CD-1 CRL P18: INCIDENCE RATES OF NON-NEOPLASTIC LESIONS BY ANATOMIC SITE (a) WITH Date Report Requested: 10/19/2014 AVERAGE SEVERITY GRADES[b]

Test Compound: Init/prom comparative mouse study (DMBA/TPA/BPO/MNNG)

CAS Number: INIT/PROM

Time Report Requested: 17:40:24

First Dose M/F: NA / NA

Lab: BAT

CD-1 CRL Mouse FEMALE VEHICLE CONTROL MNNG MNNG MNNG1000/ACETON TPA 5 COMPLETE MNNG100/COMPLET 100/ACETONE **500/ACETONE** Ε Ε None

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

b - Average severity grade (1-minimal; 2-mild; 3-moderate; 4-marked)

Species/Strain: Mouse/CD-1 CRL

Route: SKIN APPLICATION

P18: INCIDENCE RATES OF NON-NEOPLASTIC LESIONS BY ANATOMIC SITE (a) WITH AVERAGE SEVERITY GRADES[b] Date Report Requested: 10/19/2014 Time Report Requested: 17:40:24

Test Compound: Init/prom comparative mouse study (DMBA/TPA/BPO/MNNG)

CAS Number: INIT/PROM

Time Report Requested: 17:40:24

First Dose M/F: NA / NA

CD-1 CRL Mouse FEMALE	BPO 20 COMPLETE	MNNG 100/BPO 20	MNNG 500/BPO 20	MNNG1000/BPO 20	MNNG 100/TPA 5	MNNG1000/TPA 5
Disposition Summary						
Animals Initially In Study Early Deaths	30	30	30	30	30	30
Moribund Sacrifice Natural Death Survivors	1	2	9 1	10 3	6 2	13 2
Terminal Sacrifice Other	29	28	20	17	22	14 1
Animals Examined Microscopically ALIMENTARY SYSTEM None	30	30	30	30	30	29
CARDIOVASCULAR SYSTEM None						
ENDOCRINE SYSTEM None						
GENERAL BODY SYSTEM None						
GENITAL SYSTEM None						,
HEMATOPOIETIC SYSTEM None						
INTEGUMENTARY SYSTEM Skin Acanthosis Alopecia Hair Follicle, Cyst	(9)	(4) 2 [3.0] 2	(5) 2	(8) 2 [3.0]	(3)	(5)

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

b - Average severity grade (1-minimal; 2-mild; 3-moderate; 4-marked)

Species/Strain: Mouse/CD-1 CRL

P18: INCIDENCE RATES OF NON-NEOPLASTIC LESIONS BY ANATOMIC SITE (a) WITH AVERAGE SEVERITY GRADES[b] Date Report Requested: 10/19/2014 Time Report Requested: 17:40:24

Test Compound: Init/prom comparative mouse study (DMBA/TPA/BPO/MNNG)

CAS Number: INIT/PROM

Time Report Requested: 17:40:24

First Dose M/F: NA / NA

CD-1 CRL Mouse FEMALE	BPO 20 COMPLETE	MNNG 100/BPO 20	MNNG 500/BPO 20	MNNG1000/BPO 20	MNNG 100/TPA 5	MNNG1000/TPA 5
Inflammation, Chronic Active		4 [4.0]	6 [3.7]	6 [3.3]	6 [3.0]	8 [2.8]
Subcut Tiss, Infiltration Cellular, Mixed Cell						
Ulcer		2 [4.0]	4 [3.5]	6 [3.3]	6 [3.7]	8 [2.8]
Skin, Control	(5)	(4)	(12)	(7)	(10)	(12)
Acanthosis	5 [1.0]	6 [1.0]	24 [1.2]	14 [1.7]	20 [2.0]	24 [1.8]
Inflammation, Chronic Active	2 [1.0]	8 [1.0]	20 [1.1]	6 [1.0]	16 [1.5]	18 [1.3]
Ulcer		2 [2.0]				
Skin, SOA-Mass	(0)	(3)	(12)	(12)	(16)	(14)
Acanthosis					2 [3.0]	
Ulcer				2 [4.0]		
Skin, SOA-No Mass	(21)	(28)	(28)	(26)	(29)	(29)
Acanthosis	21 [1.3]	56 [1.2]	56 [1.5]	48 [2.0]	52 [2.8]	52 [2.4]
Hair Follicle, Cyst						2
Hemorrhage						
Inflammation, Chronic Active	16 [1.3]	52 [1.1]	52 [1.3]	40 [2.2]	60 [1.9]	54 [2.1]
Ulcer	2 [3.5]		4 [3.0]	10 [3.8]	16 [3.1]	18 [3.3]
MUSCULOSKELETAL SYSTEM None						
NERVOUS SYSTEM None						
RESPIRATORY SYSTEM None						
SPECIAL SENSES SYSTEM None						
URINARY SYSTEM None						

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

b - Average severity grade (1-minimal; 2-mild; 3-moderate; 4-marked)

Route: SKIN APPLICATION

Species/Strain: Mouse/CD-1 CRL

P18: INCIDENCE RATES OF NON-NEOPLASTIC LESIONS BY ANATOMIC SITE (a) WITH Date Report Requested: 10/19/2014 AVERAGE SEVERITY GRADES[b] Time Report Requested: 17:40:24

Test Compound: Init/prom comparative mouse study (DMBA/TPA/BPO/MNNG)

CAS Number: INIT/PROM

Time Report Requested: 17:40:24

First Dose M/F: NA / NA

Lab: BAT

** END OF REPORT **

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

b - Average severity grade (1-minimal; 2-mild; 3-moderate; 4-marked)