

45 days – histopathological findings

PTA302 - 01/00

Provantis 8.4.3.1 - Production

05/04/2017 13:45:19

Pathology - Intergroup Comparison of Pathology Observations

For Study: 02G16015
Title: Subchronic (13 week) brake dust inhalation toxicology study (nose-only) with lifelong follow-up in the rat
Requested By: Heinrich Ernst
Job Number: 46282
Animal Reference: Animal Name
Animals Excluded: 1010, 1011, 1012, 1013, 1020, 1021, 1022, 1023, 1030, 1031, 1032, 1033, 1050, 1051, 1052, 1053, 1060, 1061, 1062, 1063, 1070, 1071, 1072, 1073, 1080, 1081, 1082, 1083, 1084, 1085, 1086, 1087, 1088, 1089, 1090, 1091, 1092, 1093, 1094, 1095, 1096, 1097, 1098, 2010, 2011, 2012, 2013, 2020, 2021, 2022, + others.

Day Numbers: All
Groups: All
Observation Type: Histo - Neoplastic and Non-Neoplastic
Observation Summary: Incidence
Report Format: Group within Sex
Tissues: All
Rationalisation: Day_45
Removal Reasons: All
Completed Animals Only: No
Animals with Observations Only: No
Major Pathological Findings Only: No
Split Observations by: GRADE
Split Table by: Sex
Use Alternative Descriptions: No
Repeat First Group on Each Page: No
Style: Landscape - 12 Columns
Include: NVL Tissues; NE Tissues; Neoplastic - QUALIFIERS; TUMOUR TYPE; ORIGIN; CLASSIFICATION; Non-neoplastic - QUALIFIERS; SIZE

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Pathology - Intergroup Comparison of Pathology Observations, Day 45
(score expansion)

02G16015 - Subchronic (13 week) brake dust inhalation toxicology study (nose-onl)

Removal Reason: ALL	Male					
	Clean air control	brake dust low	Brake dust mid	Brake dust high	Titanium-dioxide	Chrysotile low
	Number of Animals:	4	4	4	4	4
Number of Completed Animals:	0	0	0	0	0	0
hematopoietic tissue						
Examined	0	0	0	0	0	0
Lymphoma, [M]; malignant	.	.	.	.	.	.
larynx						
Examined	4	4	4	4	4	4
No Visible Lesions	4	4	3	4	3	4
Infiltrated By Lymphoma/Leukaemic Cells	0	0	0	0	0	0
.... present, no grade	0	0	0	0	0	0
Infiltration, Mononuclear Cell, Subepithelial	0	0	1	0	1	0
.... very slight	0	0	1	0	0	0
.... slight	0	0	0	0	1	0
liver						
Examined	0	0	0	0	0	0
Infiltrated By Lymphoma/Leukaemic Cells	.	.	.	.	.	.
.... present, no grade	.	.	.	.	.	.
lung						
Examined	4	4	4	4	4	4
Accumulation, Fibre-Laden Macrophages, Alveolar/Interstitial	0 ¹	0	0	0	0	0
.... very slight	0	0	0	0	0	0

¹ [ccc - Group Factor Chi-Squared & Fisher's Exact Test: Chi-Squared p < 0.001]

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Pathology - Intergroup Comparison of Pathology Observations, Day 45
(score expansion)

02G16015 - Subchronic (13 week) brake dust inhalation toxicology study (nose-onl

Removal Reason: ALL	Male					
	Clean air control	brake dust low	Brake dust mid	Brake dust high	Titanium-dioxide	Chrysotile low
Number of Animals:	4	4	4	4	4	4
Number of Completed Animals:	0	0	0	0	0	0
lung (Continued...)						
.... slight	0 ¹	0	0	0	0	0
Accumulation, Particle-Laden Macrophages, Alveolar/Interstitial	0 ¹	4 ^{f+}	4 ^{f+}	4 ^{f+}	4 ^{f+}	4 ^{f+}
.... very slight	0 ¹	4 ^{f+}	4 ^{f+}	4 ^{f+}	3	4 ^{f+}
.... slight	0	0	0	0	1	0
Fibrosis, Interstitial	0 ¹	0	0	0	0	0
.... very slight	0 ¹	0	0	0	0	0
Fibrosis, Pleural	0	0	0	0	0	1
.... very slight	0	0	0	0	0	0
.... slight	0	0	0	0	0	1
Giant Cells, Syncytial	0 ¹	0	0	0	0	0
.... very slight	0 ¹	0	0	0	0	0
Hyperplasia, Bronchiolo-Alveolar	1 ¹	0	0	0	0	2
.... very slight	1 ⁺	0	0	0	0	2
.... slight	0 ¹	0	0	0	0	0
Hyperplasia, Neuroendocrine Cell	0	1	0	1	0	0
.... very slight	0	1	0	0	0	0
.... slight	0	0	0	1	0	0
Infiltrated By Lymphoma/Leukaemic Cells	0	0	0	0	0	0

+ [Footnote is displayed in the Comments and Markers page]

1 [ccc - Group Factor Chi-Squared & Fisher's Exact: Test: Chi-Squared p < 0.001]

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Pathology - Intergroup Comparison of Pathology Observations, Day 45
(score expansion)

02G16015 - Subchronic (13 week) brake dust inhalation toxicology study (nose-onl)

Removal Reason: ALL	Male					
	Clean air control	brake dust low	Brake dust mid	Brake dust high	Titanium-dioxide	Chrysotile low
	Number of Animals:	4	4	4	4	4
Number of Completed Animals:	0	0	0	0	0	0
lung (Continued...)						
.... present, no grade	0	0	0	0	0	0
Infiltration, Inflammatory Cell, Peribronchiolar	0 ¹	0	0	0	0	0
.... slight	0	0	0	0	0	0
.... very slight	0 ¹	0	0	0	0	0
Infiltration, Inflammatory Cell, Perivascular	0 ^{c+}	1	1	1	0	1
.... very slight	0	1	1	1	0	1
.... slight	0	0	0	0	0	0
Infiltration, Inflammatory Cell, Pleural	0	0	0	0	0	0
.... very slight	0	0	0	0	0	0
Infiltration, Inflammatory Cell, Alveolar/Interstitial	0 ¹	0	0	0	0	0
.... very slight	0 ⁺	0	0	0	0	0
.... slight	0 ¹	0	0	0	0	0
Infiltration, Mononuclear Cell, Perivascular	0	0	0	1	0	0
.... very slight	0	0	0	1	0	0
Microgranuloma	0 ¹	0	0	0	0	2
.... very slight	0 ¹	0	0	0	0	2
.... slight	0 ¹	0	0	0	0	0
Wagner Grade 2	0 ¹	4 ^{f+}	4 ^{f+}	4 ^{f+}	4 ^{f+}	2

+ [Footnote is displayed in the Comments and Markers page]

1 [ccc - Group Factor Chi-Squared & Fisher's Exact: Test: Chi-Squared p < 0.001]

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Pathology - Intergroup Comparison of Pathology Observations, Day 45
(score expansion)

02G16015 - Subchronic (13 week) brake dust inhalation toxicology study (nose-onl)

Removal Reason: ALL	Male					
	Clean air control	brake dust low	Brake dust mid	Brake dust high	Titanium-dioxide	Chrysotile low
	Number of Animals:	4	4	4	4	4
Number of Completed Animals:	0	0	0	0	0	0
lung (Continued...)						
Wagner Grade 3	0 ¹	0	0	0	0	2
Wagner Grade 4	0 ¹	0	0	0	0	0
Wagner Grade 1	4 ¹	0 f ⁺	0 f ⁺	0 f ⁺	0 f ⁺	0 f ⁺
Accumulation, Particle-Laden Macrophages, Bait	0	0	0	0	1	1
.... very slight	0	0	0	0	1	1
lung associated lymph nodes (laln)						
Examined	4	4	4	4	4	4
No Visible Lesions	4	3	3	2	3	2
Accumulation, Fibre-Laden Macrophages	0	0	0	0	0	0
.... very slight	0	0	0	0	0	0
Accumulation, Particle-Laden Macrophages	0	1	1	1	1	1
.... very slight	0	1	1	1	1	1
Hyperplasia, Lymphoid	0	1	0	1	0	1
.... slight	0	1	0	1	0	1
Infiltrated By Lymphoma/Leukaemic Cells	0	0	0	0	0	0
.... present, no grade	0	0	0	0	0	0
lymph node, nos						
Examined	0	0	0	0	0	0

+ [Footnote is displayed in the Comments and Markers page]

1 [ccc - Group Factor Chi-Squared & Fisher's Exact: Test: Chi-Squared p < 0.001]

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Pathology - Intergroup Comparison of Pathology Observations, Day 45
(score expansion)

02G16015 - Subchronic (13 week) brake dust inhalation toxicology study (nose-onl

Removal Reason: ALL	Male					
	Clean air control	brake dust low	Brake dust mid	Brake dust high	Titanium-dioxide	Chrysotile low
	Number of Animals:	4	4	4	4	4
Number of Completed Animals:	0	0	0	0	0	0
lymph node, nos (Continued...)						
Infiltrated By Lymphoma/Leukaemic Cells	.	.	.	.	.	.
.... present, no grade	.	.	.	.	.	.
nasal cavity						
Examined	4	4	4	4	4	4
No Visible Lesions	4	4	4	4	4	4
Infiltrated By Lymphoma/Leukaemic Cells	0	0	0	0	0	0
.... present, no grade	0	0	0	0	0	0
nasopharynx						
Examined	4	4	4	4	4	4
No Visible Lesions	4	4	4	4	4	4
spleen						
Examined	0	0	0	0	1	0
Extramedullary Hematopoiesis	.	.	.	.	1	.
.... severe	.	.	.	.	1	.
Infiltrated By Lymphoma/Leukaemic Cells	0	.
.... present, no grade	0	.
trachea						
Examined	4	4	4	4	4	4
No Visible Lesions	4	4	3	1	4	4

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Pathology - Intergroup Comparison of Pathology Observations, Day 45
(score expansion)

02G16015 - Subchronic (13 week) brake dust inhalation toxicology study (nose-ohl)

Removal Reason: ALL	Male					
	Clean air control	brake dust low	Brake dust mid	Brake dust high	Titanium-dioxide	Chrysotile low
Number of Animals:	4	4	4	4	4	4
Number of Completed Animals:	0	0	0	0	0	0
trachea (Continued...)						
Infiltration, Mononuclear Cell, Subepithelial	0 c ¹	0	1	3	0	0
.... very slight	0	0	1	2	0	0
.... slight	0	0	0	1	0	0

1 [c - Group Factor Chi-Squared & Fisher's Exact: Test: Chi-Squared p < 0.05]

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Pathology - Intergroup Comparison of Pathology Observations, Day 45
(score expansion)

02G16015 - Subchronic (13 week) brake dust inhalation toxicology study (nose-onl)

Removal Reason: ALL	Male		
	Chrysotile high	Crocidolite	Amosite
	Number of Animals:	4	4
Number of Completed Animals:	0	0	0
hematopoietic tissue			
Examined	0	1	0
Lymphoma, [M]; malignant	.	1	.
larynx			
Examined	4	4	4
No Visible Lesions	4	3	3
Infiltrated By Lymphoma/Leukaemic Cells	0	1	0
.... present, no grade	0	1	0
Infiltration, Mononuclear Cell, Subepithelial	0	0	1
.... very slight	0	0	1
.... slight	0	0	0
liver			
Examined	0	1	0
Infiltrated By Lymphoma/Leukaemic Cells	.	1	.
.... present, no grade	.	1	.
lung			
Examined	4	4	4
Accumulation, Fibre-Laden Macrophages, Alveolar/Interstitial	0	4 f ¹	4 f ¹
.... very slight	0	2	0

1 [f - Test: Fisher's Exact 2 Sided p < 0.05]

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Pathology - Intergroup Comparison of Pathology Observations, Day 45
(score expansion)

02G16015 - Subchronic (13 week) brake dust inhalation toxicology study (nose-onl

Removal Reason: ALL	Male		
	Chrysotile high	Crocidolite	Amosite
Number of Animals:	4	4	4
Number of Completed Animals:	0	0	0
lung (Continued...)			
.... slight	0	2	4 f ¹
Accumulation, Particle-Laden Macrophages, Alveolar/Interstitial	4 f ¹	0	0
.... very slight	4 f ¹	0	0
.... slight	0	0	0
Fibrosis, Interstitial	0	4 f ¹	4 f ¹
.... very slight	0	4 f ¹	4 f ¹
Fibrosis, Pleural	0	1	1
.... very slight	0	1	1
.... slight	0	0	0
Giant Cells, Syncytial	1	3	4 f ¹
.... very slight	1	3	4 f ¹
Hyperplasia, Bronchiolo-Alveolar	4	4	4
.... very slight	4	0	0
.... slight	0	4 f ¹	4 f ¹
Hyperplasia, Neuroendocrine Cell	0	0	0
.... very slight	0	0	0
.... slight	0	0	0
Infiltrated By Lymphoma/Leukaemic Cells	0	1	0

1 [f - Test: Fisher's Exact 2 Sided p < 0.05]

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Pathology - Intergroup Comparison of Pathology Observations, Day 45
(score expansion)

02G16015 - Subchronic (13 week) brake dust inhalation toxicology study (nose-onl)

Removal Reason: ALL	Male		
	Chrysotile high	Crocidolite	Amosite
Number of Animals:	4	4	4
Number of Completed Animals:	0	0	0
lung (Continued...)			
.... present, no grade	0	1	0
Infiltration, Inflammatory Cell, Peribronchiolar	0	4 f ¹	4 f ¹
.... slight	0	0	1
.... very slight	0	4 f ¹	3
Infiltration, Inflammatory Cell, Perivascular	2	4 f ¹	4 f ¹
.... very slight	2	3	3
.... slight	0	1	1
Infiltration, Inflammatory Cell, Pleural	0	0	1
.... very slight	0	0	1
Infiltration, Inflammatory Cell, Alveolar/Interstitial	0	4 f ¹	4 f ¹
.... very slight	0	3	0
.... slight	0	1	4 f ¹
Infiltration, Mononuclear Cell, Perivascular	0	0	0
.... very slight	0	0	0
Microgranuloma	4 f ¹	4 f ¹	4 f ¹
.... very slight	4 f ¹	0	0
.... slight	0	4 f ¹	4 f ¹
Wagner Grade 2	0	0	0

1 [f - Test: Fisher's Exact 2 Sided p < 0.05]

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Pathology - Intergroup Comparison of Pathology Observations, Day 45
(score expansion)

02G16015 - Subchronic (13 week) brake dust inhalation toxicology study (nose-onl)

Removal Reason: ALL	Male		
	Chrysotile high	Crocidolite	Amosite
Number of Animals:	4	4	4
Number of Completed Animals:	0	0	0
lung (Continued...)			
Wagner Grade 3	4 f ¹	0	0
Wagner Grade 4	0	4 f ¹	4 f ¹
Wagner Grade 1	0 f ¹	0 f ¹	0 f ¹
Accumulation, Particle-Laden Macrophages, Bait	0	0	0
.... very slight	0	0	0
lung associated lymph nodes (laln)			
Examined	4	4	4
No Visible Lesions	4	2	1
Accumulation, Fibre-Laden Macrophages	0	0	1
.... very slight	0	0	1
Accumulation, Particle-Laden Macrophages	0	0	0
.... very slight	0	0	0
Hyperplasia, Lymphoid	0	1	2
.... slight	0	1	2
Infiltrated By Lymphoma/Leukaemic Cells	0	1	0
.... present, no grade	0	1	0
lymph node, nos			
Examined	0	1	0

1 [f - Test: Fisher's Exact 2 Sided p < 0.05]

45 days – histopathological findings

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Pathology - Intergroup Comparison of Pathology Observations, Day 45
(score expansion)

02G16015 - Subchronic (13 week) brake dust inhalation toxicology study (nose-onl

Removal Reason: ALL	Male		
	Chrysotile high	Crocidolite	Amosite
Number of Animals:	4	4	4
Number of Completed Animals:	0	0	0
lymph node, nos (Continued...)			
Infiltrated By Lymphoma/Leukaemic Cells	.	1	.
.... present, no grade	.	1	.
nasal cavity			
Examined	4	4	4
No Visible Lesions	4	3	4
Infiltrated By Lymphoma/Leukaemic Cells	0	1	0
.... present, no grade	0	1	0
nasopharynx			
Examined	4	4	4
No Visible Lesions	4	4	4
spleen			
Examined	0	1	0
Extramedullary Hematopoiesis	.	0	.
.... severe	.	0	.
Infiltrated By Lymphoma/Leukaemic Cells	.	1	.
.... present, no grade	.	1	.
trachea			
Examined	4	4	4
No Visible Lesions	4	4	4

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Pathology - Intergroup Comparison of Pathology Observations, Day 45
(score expansion)

02G16015 - Subchronic (13 week) brake dust inhalation toxicology study (nose-onl

Removal Reason: ALL	Male		
	Chrysotile high	Crocidolite	Amosite
Number of Animals:	4	4	4
Number of Completed Animals:	0	0	0
trachea (Continued...)			
Infiltration, Mononuclear Cell, Subepithelial	0	0	0
.... very slight	0	0	0
.... slight	0	0	0

89 days – histopathological findings

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Pathology - Intergroup Comparison of Pathology Observations

For Study: 02G16015
Title: Subchronic (13 week) brake dust inhalation toxicology study (nose-only) with lifelong follow-up in the rat
Requested By: Heinrich Ernst
Job Number: 46658
Animal Reference: Animal Name
Animals Excluded: 1000, 1001, 1002, 1003, 1020, 1021, 1022, 1023, 1030, 1031, 1032, 1033, 1050, 1051, 1052, 1053, 1060, 1061, 1062, 1063, 1070, 1071, 1072, 1073, 1080, 1081, 1082, 1083, 1084, 1085, 1086, 1087, 1088, 1089, 1090, 1091, 1092, 1093, 1094, 1095, 1096, 1097, 1098, 2000, 2001, 2002, 2003, 2020, 2021, 2022, + others.

Day Numbers: All
Groups: All
Observation Type: Histo - Neoplastic and Non-Neoplastic
Observation Summary: Incidence
Report Format: Group within Sex
Tissues: LARYNX; LUNG; LUNG ASSOCIATED LYMPH NODES (LALN); NASAL CAVITY; NASOPHARYNX; TRACHEA
Rationalisation: Day_90
Removal Reasons: All
Completed Animals Only: No
Animals with Observations Only: No
Major Pathological Findings Only: No
Split Observations by: GRADE
Split Table by: Sex
Use Alternative Descriptions: No
Repeat First Group on Each Page: No
Style: Landscape - 12 Columns
Include: NVL Tissues; NE Tissues; Neoplastic - QUALIFIERS; TUMOUR TYPE; ORIGIN; CLASSIFICATION; Non-neoplastic - QUALIFIERS; SIZE

89 days – histopathological findings

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Pathology - Intergroup Comparison of Pathology Observations, Day 90
(score expansion)

02G16015 - Subchronic (13 week) brake dust inhalation toxicology study

Removal Reason: ALL	Male					
	Clean air control	brake dust low	Brake dust mid	Brake dust high	Titanium-dioxide	Chrysotile low
	Number of Animals:	4	4	4	4	4
Number of Completed Animals:	0	0	0	0	0	0
larynx						
Examined	4	4	4	4	4	4
No Visible Lesions	4	4	3	4	4	4
Infiltration, Inflammatory Cell, Subepithelial	0	0	0	0	0	0
.... very slight	0	0	0	0	0	0
Infiltration, Mononuclear Cell, Subepithelial	0	0	1	0	0	0
.... very slight	0	0	1	0	0	0
.... slight	0	0	0	0	0	0
lung						
Examined	4	4	4	4	4	4
Accumulation, Fibre-Laden Macrophages, Alveolar/Interstitial	0 ¹	0	0	0	0	0
.... slight	0 ¹	0	0	0	0	0
Accumulation, Particle-Laden Macrophages, Alveolar/Interstitial	0 ¹	4 f ⁺	4 f ⁺	4 f ⁺	4 f ⁺	4 f ⁺
.... very slight	0 ¹	4 f ⁺	4 f ⁺	4 f ⁺	3	4 f ⁺
.... slight	0	0	0	0	1	0
Fibrosis, Interstitial	0 ¹	0	0	0	0	0
.... very slight	0 ⁺	0	0	0	0	0
.... slight	0 ¹	0	0	0	0	0

+ [Footnote is displayed in the Comments and Markers page]

1 [ccc - Group Factor Chi-Squared & Fisher's Exact: Test: Chi-Squared p < 0.001]

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Pathology - Intergroup Comparison of Pathology Observations, Day 90
(score expansion)

02G16015 - Subchronic (13 week) brake dust inhalation toxicology study

Removal Reason: ALL	Male					
	Clean air control	brake dust low	Brake dust mid	Brake dust high	Titanium-dioxide	Chrysotile low
Number of Animals:	4	4	4	4	4	4
Number of Completed Animals:	0	0	0	0	0	0
lung (Continued...)						
Fibrosis, Pleural	0	0	0	0	0	0
.... very slight	0	0	0	0	0	0
Giant Cells, Syncytial	0 ¹	0	0	0	0	0
.... very slight	0 ⁺	0	0	0	0	0
.... slight	0	0	0	0	0	0
Hemorrhage, Alveolar	1	0	0	0	0	0
.... very slight	1	0	0	0	0	0
Hyperplasia, Bronchiolo-Alveolar	0 ¹	0	1	1	0	4 ^{f+}
.... very slight	0 ¹	0	1	1	0	4 ^{f+}
.... slight	0 ¹	0	0	0	0	0
Hyperplasia, Neuroendocrine Cell	0	0	0	1	1	0
.... very slight	0	0	0	1	0	0
.... slight	0	0	0	0	1	0
Infiltration, Inflammatory Cell, Peribronchiolar	0 ¹	0	0	0	0	0
.... very slight	0 ⁺	0	0	0	0	0
.... slight	0	0	0	0	0	0
Infiltration, Inflammatory Cell, Perivascular	0 ^{c+}	2	2	0	2	3
.... very slight	0 ^{c+}	2	2	0	2	3

+ [Footnote is displayed in the Comments and Markers page]

1 [ccc - Group Factor Chi-Squared & Fisher's Exact: Test: Chi-Squared p < 0.001]

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Pathology - Intergroup Comparison of Pathology Observations, Day 90
(score expansion)

02G16015 - Subchronic (13 week) brake dust inhalation toxicology study

Removal Reason: ALL	Male					
	Clean air control	brake dust low	Brake dust mid	Brake dust high	Titanium-dioxide	Chrysotile low
	Number of Animals:	4	4	4	4	4
Number of Completed Animals:	0	0	0	0	0	0
lung (Continued...)						
Infiltration, Inflammatory Cell, Alveolar/Interstitial	0 ¹	0	0	0	1	3
.... very slight	0 ¹	0	0	0	1	3
.... slight	0 ¹	0	0	0	0	0
Macrophage Aggregation, Alveolar	2	0	0	0	0	0
.... very slight	1	0	0	0	0	0
.... slight	1	0	0	0	0	0
Microgranuloma(s)	0 ¹	0	0	0	0	4 ^{f+}
.... very slight	0 ¹	0	0	0	0	4 ^{f+}
.... slight	0 ¹	0	0	0	0	0
Wagner Grade 2	0 ¹	4 ^{f+}	4 ^{f+}	4 ^{f+}	4 ^{f+}	0
Wagner Grade 3	0 ¹	0	0	0	0	4 ^{f+}
Wagner Grade 4	0 ¹	0	0	0	0	0
Wagner Grade 1	4 ¹	0 ^{f+}	0 ^{f+}	0 ^{f+}	0 ^{f+}	0 ^{f+}
Accumulation, Fibre-Laden Macrophages, Balt	0	0	0	0	0	0
.... very slight	0	0	0	0	0	0
lung associated lymph nodes (ln)						
Examined	4	4	4	4	4	4
No Visible Lesions	4	3	3	3	3	2

+ [Footnote is displayed in the Comments and Markers page]

1 [ccc - Group Factor Chi-Squared & Fisher's Exact: Test: Chi-Squared p < 0.001]

89 days – histopathological findings

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Provantis 8.4.3.1 - Production

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Pathology - Intergroup Comparison of Pathology Observations, Day 90
(score expansion)

02G16015 - Subchronic (13 week) brake dust inhalation toxicology study

Removal Reason: ALL	Male					
	Clean air control	brake dust low	Brake dust mid	Brake dust high	Titanium-dioxide	Chrysotile low
	Number of Animals:	4	4	4	4	4
Number of Completed Animals:	0	0	0	0	0	0
lung associated lymph nodes (ln) (Continued...)						
Accumulation, Fibre-Laden Macrophages	0 ¹	0	0	0	0	0
.... very slight	0 ¹	0	0	0	0	0
Accumulation, Particle-Laden Macrophages	0	0	1	1	1	2
.... very slight	0	0	1	1	1	2
Hyperplasia, Lymphoid	0	1	0	0	0	0
.... slight	0	1	0	0	0	0
nasal cavity						
Examined	4	4	4	4	4	4
No Visible Lesions	4	4	4	4	4	4
Droplets, Hyaline, Olfactory Epithelial	0	0	0	0	0	0
.... very slight	0	0	0	0	0	0
nasopharynx						
Examined	4	4	4	4	4	4
No Visible Lesions	4	4	4	4	4	4
trachea						
Examined	4	4	4	4	4	4
No Visible Lesions	3	4	4	4	4	4
Infiltration, Mononuclear Cell, Subepithelial	1	0	0	0	0	0
.... very slight	1	0	0	0	0	0

1 [cc - Group Factor Chi-Squared & Fisher's Exact: Test: Chi-Squared p < 0.01]

89 days – histopathological findings

PTA302 - 01/00

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Pathology - Intergroup Comparison of Pathology Observations, Day 90
(score expansion)

02G16015 - Subchronic (13 week) brake dust inhalation toxicology study

Removal Reason: ALL	Male					
	Clean air control	brake dust low	Brake dust mid	Brake dust high	Titanium-dioxide	Chrysotile low
Number of Animals:	4	4	4	4	4	4
Number of Completed Animals:	0	0	0	0	0	0
trachea (Continued...)						
.... slight	0	0	0	0	0	0

89 days – histopathological findings

PTA302 - 01/00

Provantis 8.4.3.1 - Production

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Pathology - Intergroup Comparison of Pathology Observations, Day 90
(score expansion)

02G16015 - Subchronic (13 week) brake dust inhalation toxicology study

Removal Reason: ALL	Male		
	Chrysotile high	Crocidolite	Amosite
Number of Animals:	4	4	4
Number of Completed Animals:	0	0	0
larynx			
Examined	4	4	4
No Visible Lesions	3	3	2
Infiltration, Inflammatory Cell, Subepithelial	0	0	1
.... very slight	0	0	1
Infiltration, Mononuclear Cell, Subepithelial	1	1	1
.... very slight	0	1	1
.... slight	1	0	0
lung			
Examined	4	4	4
Accumulation, Fibre-Laden Macrophages, Alveolar/Interstitial	0	4 f ¹	4 f ¹
.... slight	0	4 f ¹	4 f ¹
Accumulation, Particle-Laden Macrophages, Alveolar/Interstitial	4 f ¹	0	0
.... very slight	4 f ¹	0	0
.... slight	0	0	0
Fibrosis, Interstitial	2	4 f ¹	4 f ¹
.... very slight	2	3	0
.... slight	0	1	4 f ¹

1 [f - Test: Fisher's Exact 2 Sided p < 0.05]

89 days – histopathological findings

PTA302 - 01/00

Provantis 8.4.3.1 - Production

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Pathology - Intergroup Comparison of Pathology Observations, Day 90
(score expansion)

02G16015 - Subchronic (13 week) brake dust inhalation toxicology study

Removal Reason: ALL	Male		
	Chrysotile high	Crocidolite	Amosite
Number of Animals:	4	4	4
Number of Completed Animals:	0	0	0
lung (Continued...)			
Fibrosis, Pleural	0	0	1
.... very slight	0	0	1
Giant Cells, Syncytial	1	4 f ¹	4 f ¹
.... very slight	1	4 f ¹	2
.... slight	0	0	2
Hemorrhage, Alveolar	0	0	0
.... very slight	0	0	0
Hyperplasia, Bronchiolo-Alveolar	4 f ¹	4 f ¹	4 f ¹
.... very slight	4 f ¹	0	0
.... slight	0	4 f ¹	4 f ¹
Hyperplasia, Neuroendocrine Cell	0	0	0
.... very slight	0	0	0
.... slight	0	0	0
Infiltration, Inflammatory Cell, Peribronchiolar	1	4 f ¹	4 f ¹
.... very slight	1	3	3
.... slight	0	1	1
Infiltration, Inflammatory Cell, Perivascular	3	4 f ¹	4 f ¹
.... very slight	3	4 f ¹	4 f ¹

1 [f - Test: Fisher's Exact 2 Sided p < 0.05]

89 days – histopathological findings

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Pathology - Intergroup Comparison of Pathology Observations, Day 90
(score expansion)

02G16015 - Subchronic (13 week) brake dust inhalation toxicology study

Removal Reason: ALL	Male		
	Chrysotile high	Crocidolite	Amosite
Number of Animals:	4	4	4
Number of Completed Animals:	0	0	0
lung (Continued...)			
Infiltration, Inflammatory Cell, Alveolar/Interstitial	4 f ¹	4 f ¹	4 f ¹
.... very slight	4 f ¹	0	0
.... slight	0	4 f ¹	4 f ¹
Macrophage Aggregation, Alveolar	0	0	0
.... very slight	0	0	0
.... slight	0	0	0
Microgranuloma(s)	2	4 f ¹	4 f ¹
.... very slight	2	0	0
.... slight	0	4 f ¹	4 f ¹
Wagner Grade 2	0	0	0
Wagner Grade 3	2	0	0
Wagner Grade 4	2	4 f ¹	4 f ¹
Wagner Grade 1	0 f ¹	0 f ¹	0 f ¹
Accumulation, Fibre-Laden Macrophages, Balt	0	1	1
.... very slight	0	1	1
lung associated lymph nodes (ln)			
Examined	4	4	4
No Visible Lesions	4	1	2

1 [f - Test: Fisher's Exact 2 Sided p < 0.05]

89 days – histopathological findings

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Pathology - Intergroup Comparison of Pathology Observations, Day 90
(score expansion)

02G16015 - Subchronic (13 week) brake dust inhalation toxicology study

Removal Reason: ALL	Male		
	Chrysotile high	Crocidolite	Amosite
Number of Animals:	4	4	4
Number of Completed Animals:	0	0	0
lung associated lymph nodes (laln) (Continued...)			
Accumulation, Fibre-Laden Macrophages	0	3	2
.... very slight	0	3	2
Accumulation, Particle-Laden Macrophages	0	0	0
.... very slight	0	0	0
Hyperplasia, Lymphoid	0	1	2
.... slight	0	1	2
nasal cavity			
Examined	4	4	4
No Visible Lesions	4	4	3
Droplets, Hyaline, Olfactory Epithelial	0	0	1
.... very slight	0	0	1
nasopharynx			
Examined	4	4	4
No Visible Lesions	4	4	4
trachea			
Examined	4	4	4
No Visible Lesions	4	3	4
Infiltration, Mononuclear Cell, Subepithelial	0	1	0
.... very slight	0	0	0

89 days – histopathological findings

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Pathology - Intergroup Comparison of Pathology Observations, Day 90
(score expansion)

02G16015 - Subchronic (13 week) brake dust inhalation toxicology study

Removal Reason: ALL	Male		
	Chrysotile high	Crocidolite	Amosite
Number of Animals:	4	4	4
Number of Completed Animals:	0	0	0
trachea (Continued...) slight	0	1	0

180 days – histopathological findings

PTA302 - 01/00

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25/08/2017 15:58:31

Pathology - Intergroup Comparison of Pathology Observations

For Study:	02G16015
Title:	Subchronic (13 week) brake dust inhalation toxicology study (nose-only) with lifelong follow-up in the rat
Requested By:	Heinrich Ernst
Job Number:	47540
Animal Reference:	Animal Name
Animals Excluded:	1000, 1001, 1002, 1003, 1010, 1011, 1012, 1013, 1030, 1031, 1032, 1033, 1050, 1051, 1052, 1053, 1060, 1061, 1062, 1063, 1070, 1071, 1072, 1073, 1080, 1081, 1082, 1083, 1084, 1085, 1086, 1087, 1088, 1089, 1090, 1091, 1092, 1093, 1094, 1095, 1096, 1097, 1098, 2000, 2001, 2002, 2003, 2010, 2011, 2012, + others.
Day Numbers:	All
Groups:	All
Observation Type:	Histo - Neoplastic and Non-Neoplastic
Observation Summary:	Incidence
Report Format:	Group within Sex
Tissues:	All
Rationalisation:	3M_PE
Removal Reasons:	All
Completed Animals Only:	No
Animals with Observations Only:	No
Major Pathological Findings Only:	No
Split Observations by:	GRADE
Split Table by:	Sex
Use Alternative Descriptions:	No
Repeat First Group on Each Page:	No
Style:	Landscape - 12 Columns
Include:	NVL Tissues; NE Tissues; Neoplastic - QUALIFIERS; TUMOUR TYPE; ORIGIN; CLASSIFICATION; Non-neoplastic - QUALIFIERS; SIZE

180 days – histopathological findings

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Provantis 8.4.3.1 - Production

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Pathology - Intergroup Comparison of Pathology Observations

02G16015 - Subchronic (13 week) brake dust inhalation toxicology study
(nose-only) with lifelong follow-up in the rat, 3 months post exposure

Removal Reason: ALL	Male					
	Clean air control	brake dust low	Brake dust mid	Brake dust high	Titanium-dioxide	Chrysotile low
	Number of Animals:	4	4	4	4	4
Number of Completed Animals:	0	0	0	0	0	0
larynx						
Examined	4	4	4	4	4	4
No Visible Lesions	3	3	4	1	2	3
Hemorrhage, Subepithelial	1	1	0	1	1	0
.... very slight	0	1	0	1	0	0
.... slight	1	0	0	0	1	0
Infiltration, Inflammatory Cell, Subepithelial	0	0	0	1	0	0
.... very slight	0	0	0	1	0	0
Infiltration, Mononuclear Cell, Subepithelial	1	0	0	2	1	1
.... very slight	1	0	0	2	1	1
.... slight	0	0	0	0	0	0
lung						
Examined	4	4	4	4	4	4
Accumulation, Fibre-Laden Macrophages, Alveolar/Interstitial	0 ¹	0	0	0	0	0
.... slight	0 ¹	0	0	0	0	0
Accumulation, Particle-Laden Macrophages, Alveolar/Interstitial	0 ¹	4 f ⁺	4 f ⁺	4 f ⁺	4 f ⁺	4 f ⁺
.... very slight	0 ¹	4 f ⁺	4 f ⁺	4 f ⁺	4 f ⁺	4 f ⁺
Fibrosis, Interstitial	0 ¹	1	0	0	0	0

+ [Footnote is displayed in the Comments and Markers page]

1 [ccc - Group Factor Chi-Squared & Fisher's Exact: Test: Chi-Squared p < 0.001]

180 days – histopathological findings

PTA302 - 01/00

Provantis 8.4.3.1 - Production

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Pathology - Intergroup Comparison of Pathology Observations

02G16015 - Subchronic (13 week) brake dust inhalation toxicology study
(nose-only) with lifelong follow-up in the rat, 3 months post exposure

Removal Reason: ALL	Male					
	Clean air control	brake dust low	Brake dust mid	Brake dust high	Titanium-dioxide	Chrysotile low
Number of Animals:	4	4	4	4	4	4
Number of Completed Animals:	0	0	0	0	0	0
lung (Continued...)						
.... very slight	0 ¹	1	0	0	0	0
.... slight	0 ¹	0	0	0	0	0
Fibrosis, Pleural	0	1	0	0	1	0
.... very slight	0	1	0	0	1	0
Giant Cells, Syncytial	0 ¹	0	0	0	0	0
.... very slight	0 ⁺	0	0	0	0	0
.... slight	0 ¹	0	0	0	0	0
Hyperplasia, Bronchiolo-Alveolar	1 ¹	0	2	0	1	4
.... very slight	1 ¹	0	2	0	1	4
.... slight	0 ¹	0	0	0	0	0
Hyperplasia, Neuroendocrine Cell	0	0	1	0	0	0
.... slight	0	0	1	0	0	0
Infiltration, Inflammatory Cell, Peribronchiolar	0 ¹	0	0	0	0	0
.... very slight	0 ^{c+}	0	0	0	0	0
.... slight	0	0	0	0	0	0
Infiltration, Inflammatory Cell, Perivascular	0 ¹	3	0	2	0	4 ^{f+}
.... very slight	0 ^{c+}	3	0	2	0	4 ^{f+}
.... slight	0	0	0	0	0	0

+ [Footnote is displayed in the Comments and Markers page]

1 [ccc - Group Factor Chi-Squared & Fisher's Exact: Test: Chi-Squared p < 0.001]

180 days – histopathological findings

PTA302 - 01/00

Provantis 8.4.3.1 - Production

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Pathology - Intergroup Comparison of Pathology Observations

02G16015 - Subchronic (13 week) brake dust inhalation toxicology study
(nose-only) with lifelong follow-up in the rat, 3 months post exposure

Removal Reason: ALL	Male					
	Clean air control	brake dust low	Brake dust mid	Brake dust high	Titanium-dioxide	Chrysotile low
	Number of Animals:	4	4	4	4	4
Number of Completed Animals:	0	0	0	0	0	0
lung (Continued...)						
Infiltration, Inflammatory Cell, Pleural	0	0	1	0	0	0
.... very slight	0	0	1	0	0	0
Infiltration, Inflammatory Cell, Alveolar/Interstitial	0 ¹	0	0	0	0	2
.... very slight	0 ¹	0	0	0	0	2
.... slight	0 ¹	0	0	0	0	0
Macrophage Aggregation, Alveolar	1	0	0	0	0	0
.... very slight	1	0	0	0	0	0
Microgranuloma	0 ¹	0	0	0	0	3
.... very slight	0 ¹	0	0	0	0	3
.... slight	0 ¹	0	0	0	0	0
Wagner Grade 2	0 ¹	4 f ⁺	4 f ⁺	4 f ⁺	4 f ⁺	0
Wagner Grade 3	0 ¹	0	0	0	0	4 f ⁺
Wagner Grade 4	0 ¹	0	0	0	0	0
Wagner Grade 1	4 ¹	0 f ⁺	0 f ⁺	0 f ⁺	0 f ⁺	0 f ⁺
Accumulation, Particle-Laden Macrophages, Balt	0 ¹	2	3	2	4 f ⁺	4 f ⁺
.... very slight	0 ¹	2	3	2	4 f ⁺	4 f ⁺
Accumulation, Fibre-Laden Macrophages, Balt	0 ¹	0	0	0	0	0
.... very slight	0 ¹	0	0	0	0	0

+ [Footnote is displayed in the Comments and Markers page]

1 [ccc - Group Factor Chi-Squared & Fisher's Exact: Test: Chi-Squared p < 0.001]

180 days – histopathological findings

PTA302 - 01/00

Provantis 8.4.3.1 - Production

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Pathology - Intergroup Comparison of Pathology Observations

02G16015 - Subchronic (13 week) brake dust inhalation toxicology study
(nose-only) with lifelong follow-up in the rat, 3 months post exposure

Removal Reason: ALL	Male					
	Clean air control	brake dust low	Brake dust mid	Brake dust high	Titanium-dioxide	Chrysotile low
	Number of Animals:	4	4	4	4	4
Number of Completed Animals:	0	0	0	0	0	0
lung (Continued...)						
.... slight	0	0	0	0	0	0
lung associated lymph nodes (ln)						
Examined	4	4	4	4	4	4
No Visible Lesions	4	1	1	0	2	0
Accumulation, Fibre-Laden Macrophages	0 ¹	0	0	0	0	0
.... very slight	0 ¹	0	0	0	0	0
.... slight	0	0	0	0	0	0
Accumulation, Particle-Laden Macrophages	0 ⁺	3	3	3	2	4 ^f
.... very slight	0 ⁺	3	3	3	2	4 ^f
Hyperplasia, Lymphoid	0	0	0	2	0	1
.... slight	0	0	0	2	0	1
nasal cavity						
Examined	4	4	4	4	4	4
No Visible Lesions	3	2	3	3	3	3
Droplets, Hyaline, Olfactory Epithelial	1	2	1	0	1	0
.... very slight	0	0	1	0	0	0
.... slight	1	2	0	0	1	0
Droplets, Hyaline, Respiratory Epithelial	1	2	1	0	1	0

+ [Footnote is displayed in the Comments and Markers page]

1 [ccc - Group Factor Chi-Squared & Fisher's Exact: Test: Chi-Squared p < 0.001]

180 days – histopathological findings

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Provantis 8.4.3.1 - Production

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Pathology - Intergroup Comparison of Pathology Observations

02G16015 - Subchronic (13 week) brake dust inhalation toxicology study
(nose-only) with lifelong follow-up in the rat, 3 months post exposure

Removal Reason: ALL	Male					
	Clean air control	brake dust low	Brake dust mid	Brake dust high	Titanium-dioxide	Chrysotile low
Number of Animals:	4	4	4	4	4	4
Number of Completed Animals:	0	0	0	0	0	0
nasal cavity (Continued...)						
.... very slight	1	2	1	0	1	0
Hyperplasia, Mucous Cell	0	0	0	0	0	1
.... very slight	0	0	0	0	0	1
Infiltration, Inflammatory Cell, Subepithelial	0	0	1	1	0	0
.... very slight	0	0	1	1	0	0
Hyperplasia, Nalt	0	0	0	1	0	0
.... slight	0	0	0	1	0	0
nasopharynx						
Examined	4	4	4	3	4	4
No Visible Lesions	4	4	4	3	4	4
prostate						
Examined	1	0	0	0	0	0
Inflammation; purulent	1	.	.	.	.	.
.... severe	1	.	.	.	.	.
skin/subcutaneous tissue						
Examined	0	0	0	1	0	0
Abscess, Subcutaneous	.	.	.	1	.	.
.... severe	.	.	.	1	.	.

180 days – histopathological findings

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Pathology - Intergroup Comparison of Pathology Observations

02G16015 - Subchronic (13 week) brake dust inhalation toxicology study
(nose-only) with lifelong follow-up in the rat, 3 months post exposure

Removal Reason: ALL	Male					
	Clean air control	brake dust low	Brake dust mid	Brake dust high	Titanium-dioxide	Chrysotile low
Number of Animals:	4	4	4	4	4	4
Number of Completed Animals:	0	0	0	0	0	0
trachea						
Examined	4	4	4	3	4	4
No Visible Lesions	4	3	3	3	3	4
Infiltration, Mononuclear Cell, Subepithelial	0	1	1	0	1	0
.... very slight	0	1	1	0	1	0

180 days – histopathological findings

PTA302 - 01/00

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Pathology - Intergroup Comparison of Pathology Observations

02G16015 - Subchronic (13 week) brake dust inhalation toxicology study
(nose-only) with lifelong follow-up in the rat, 3 months post exposure

Removal Reason: ALL	Male		
	Chrysotile high	Crocidolite	Amosite
	Number of Animals:	4	4
Number of Completed Animals:	0	0	0
larynx			
Examined	4	4	4
No Visible Lesions	3	3	2
Hemorrhage, Subepithelial	0	0	0
.... very slight	0	0	0
.... slight	0	0	0
Infiltration, Inflammatory Cell, Subepithelial	0	0	0
.... very slight	0	0	0
Infiltration, Mononuclear Cell, Subepithelial	1	1	2
.... very slight	1	1	1
.... slight	0	0	1
lung			
Examined	4	4	4
Accumulation, Fibre-Laden Macrophages, Alveolar/Interstitial	0	4 f ¹	4 f ¹
.... slight	0	4 f ¹	4 f ¹
Accumulation, Particle-Laden Macrophages, Alveolar/Interstitial	4 f ¹	0	0
.... very slight	4 f ¹	0	0
Fibrosis, Interstitial	4 f ¹	4 f ¹	4 f ¹

1 [f - Test: Fisher's Exact 2 Sided p < 0.05]

180 days – histopathological findings

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Provantis 8.4.3.1 - Production

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Pathology - Intergroup Comparison of Pathology Observations

02G16015 - Subchronic (13 week) brake dust inhalation toxicology study
(nose-only) with lifelong follow-up in the rat, 3 months post exposure

Removal Reason: ALL	Male		
	Chrysotile high	Crocidolite	Amosite
Number of Animals:	4	4	4
Number of Completed Animals:	0	0	0
lung (Continued...)			
.... very slight	4 f ¹	0	0
.... slight	0	4 f ¹	4 f ¹
Fibrosis, Pleural	1	1	2
.... very slight	1	1	2
Giant Cells, Syncytial	0	4 f ¹	4 f ¹
.... very slight	0	3	0
.... slight	0	1	4 f ¹
Hyperplasia, Bronchiolo-Alveolar	4	4	4
.... very slight	4	0	0
.... slight	0	4 f ¹	4 f ¹
Hyperplasia, Neuroendocrine Cell	0	0	1
.... slight	0	0	1
Infiltration, Inflammatory Cell, Peribronchiolar	1	4 f ¹	4 f ¹
.... very slight	1	3	2
.... slight	0	1	2
Infiltration, Inflammatory Cell, Perivascular	2	4 f ¹	4 f ¹
.... very slight	2	3	2
.... slight	0	1	2

1 [f - Test: Fisher's Exact 2 Sided p < 0.05]

180 days – histopathological findings

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Pathology - Intergroup Comparison of Pathology Observations

02G16015 - Subchronic (13 week) brake dust inhalation toxicology study
(nose-only) with lifelong follow-up in the rat, 3 months post exposure

Removal Reason: ALL	Male		
	Chrysotile high	Crocidolite	Amosite
Number of Animals:	4	4	4
Number of Completed Animals:	0	0	0
lung (Continued...)			
Infiltration, Inflammatory Cell, Pleural	1	0	0
.... very slight	1	0	0
Infiltration, Inflammatory Cell, Alveolar/Interstitial	4 f ¹	4 f ¹	4 f ¹
.... very slight	4 f ¹	0	0
.... slight	0	4 f ¹	4 f ¹
Macrophage Aggregation, Alveolar	0	0	0
.... very slight	0	0	0
Microgranuloma	4 f ¹	4 f ¹	4 f ¹
.... very slight	4 f ¹	0	0
.... slight	0	4 f ¹	4 f ¹
Wagner Grade 2	0	0	0
Wagner Grade 3	4 f ¹	0	0
Wagner Grade 4	0	4 f ¹	4 f ¹
Wagner Grade 1	0 f ¹	0 f ¹	0 f ¹
Accumulation, Particle-Laden Macrophages, Balt	4 f ¹	0	0
.... very slight	4 f ¹	0	0
Accumulation, Fibre-Laden Macrophages, Balt	0	3	4 f ¹
.... very slight	0	2	4 f ¹

1 [f - Test: Fisher's Exact 2 Sided p < 0.05]

180 days – histopathological findings

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Pathology - Intergroup Comparison of Pathology Observations

02G16015 - Subchronic (13 week) brake dust inhalation toxicology study
(nose-only) with lifelong follow-up in the rat, 3 months post exposure

Removal Reason: ALL	Male		
	Chrysotile high	Crocidolite	Amosite
Number of Animals:	4	4	4
Number of Completed Animals:	0	0	0
lung (Continued...)			
.... slight	0	1	0
lung associated lymph nodes (ln)			
Examined	4	4	4
No Visible Lesions	1	0	0
Accumulation, Fibre-Laden Macrophages	0	4 f ¹	4 f ¹
.... very slight	0	2	4 f ¹
.... slight	0	2	0
Accumulation, Particle-Laden Macrophages	3	0	0
.... very slight	3	0	0
Hyperplasia, Lymphoid	0	1	1
.... slight	0	1	1
nasal cavity			
Examined	4	4	4
No Visible Lesions	4	3	1
Droplets, Hyaline, Olfactory Epithelial	0	1	2
.... very slight	0	0	2
.... slight	0	1	0
Droplets, Hyaline, Respiratory Epithelial	0	1	3

1 [f - Test: Fisher's Exact 2 Sided p < 0.05]

180 days – histopathological findings

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Provantis 8.4.3.1 - Production

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Pathology - Intergroup Comparison of Pathology Observations

02G16015 - Subchronic (13 week) brake dust inhalation toxicology study
(nose-only) with lifelong follow-up in the rat, 3 months post exposure

Removal Reason: ALL	Male		
	Chrysotile high	Crocidolite	Amosite
Number of Animals:	4	4	4
Number of Completed Animals:	0	0	0
nasal cavity (Continued...)			
.... very slight	0	1	3
Hyperplasia, Mucous Cell	0	0	0
.... very slight	0	0	0
Infiltration, Inflammatory Cell, Subepithelial	0	0	0
.... very slight	0	0	0
Hyperplasia, Nalt	0	0	0
.... slight	0	0	0
nasopharynx			
Examined	4	4	4
No Visible Lesions	4	4	4
prostate			
Examined	0	0	0
Inflammation; purulent	.	.	.
.... severe	.	.	.
skin/subcutaneous tissue			
Examined	0	0	0
Abscess, Subcutaneous	.	.	.
.... severe	.	.	.

180 days – histopathological findings

PTA302 - 01/00

Provantis 8.4.3.1 - Production

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Pathology - Intergroup Comparison of Pathology Observations

02G16015 - Subchronic (13 week) brake dust inhalation toxicology study
(nose-only) with lifelong follow-up in the rat, 3 months post exposure

Removal Reason: ALL	Male		
	Chrysotile high	Crocidolite	Amosite
Number of Animals:	4	4	4
Number of Completed Animals:	0	0	0
trachea			
Examined	4	4	4
No Visible Lesions	3	3	3
Infiltration, Mononuclear Cell, Subepithelial	1	1	1
.... very slight	1	1	1

180 days – histopathological findings