

Supplemental Table S1. Laryngeal Lesions in Rats Exposed to α -Diketones

Laryngeal Lesion	2,3-Butanedione		2,3-Pentanedione		2,3-Hexanedione	
	Post-Exposure	Recovery	Post-Exposure	Recovery	Post-Exposure	Recovery
No. animals evaluated:	5	5	5	3	6	6
200 ppm						
Respiratory Epithelium						
Necrosis	1 ^a (2.0) ^b	0	1 (1.0)	0	0	0
Squamous metaplasia	5 (3.0)	5 (3.0)	5 (3.0)	3 (2.0)	6 (3.2)	3 (1.0)
Hyperplasia	2 (2.0)	1 (1.0)	2 (1.0)	0	3 (1.3)	0
Squamous Epithelium						
Necrosis	4 (1.8)	0	5 (1.8)	0	3 (1.7)	0
Hyperplasia	3 (2.0)	5 (1.2)	5 (1.8)	3 (1.0)	6 (1.7)	3 (1.0)
Ulcer	0	0	0	0	0	0
Chronic/active Inflammation	5 (2.2)	4 (1.0)	4 (2.8)	1 (2.0)	5 (1.2)	0
No. animals evaluated:	6	10	6	9	6	6
150 ppm						
Respiratory Epithelium						
Necrosis	1 (2.0)	1 (1.0)	0	0	0	0
Squamous metaplasia	6 (3.2)	10 (2.9)	6 (3.2)	9 (1.2)	6 (2.7)	3 (1.0)
Hyperplasia	5 (1.0)	2 (1.0)	4 (1.3)	1 (1.0)	3 (1.7)	6 (1.0)
Ulcer	0	1 (1.0)	0	0	0	0
Squamous Epithelium						
Necrosis	4 (2.0)	0	4 (1.3)	0	0	0
Hyperplasia	3 (2.0)	5 (1.0)	5 (1.8)	3 (1.0)	6 (1.7)	1 (1.0)
Chronic/active Inflammation	6 (2.5)	7 (1.3)	6 (1.8)	3 (1.0)	5 (1.0)	2 (1.0)
No. animals evaluated:	8	7	7	8	6	6
100 ppm						
Respiratory Epithelium						
Squamous metaplasia	8 (3.3)	7 (1.3)	7 (2.9)	7 (1.4)	6 (2.0)	4 (1.0)
Hyperplasia	4 (1.3)	0	2 (1.5)	0	3 (1.3)	0
Squamous Epithelium						
Necrosis	2 (1.0)	0	0	0	0	0
Hyperplasia	8 (1.8)	2 (2.0)	7 (1.4)	0	6 (1.3)	3 (1.0)
Ulcer	2 (1.5)	0	0	0	0	0
Chronic/active Inflammation	8 (1.8)	0	6 (1.3)	1 (1.0)	3 (1.0)	0

Rats were exposed to α -diketones by inhalation 6 hr/day/5 days/week for 12 exposures. Tissues were collected from half the animals on the morning after the last exposure (post-exposure group) and from the remaining animals following an additional 2 weeks without further exposure (recovery group).

^a Number of animals with lesions

^b Average severity grade in parentheses where: 1=minimal, 2=mild, 3=moderate, 4=marked