

Study citation	Experiment name	Treatment period	Experiment chemical	Animal, Species (sex, n)	Route of exposure	Doses	Dose units	System	Organ	Endpoint name	NOEL	LOEL	Overall study quality
NTP 2002 ^c	2-Year Inhalation	Chronic (104 weeks (6 hour plus T90 (12 minutes)/day, 5 days/week))	vanadium pentoxide	Mouse, B6C3F1 (Male, N=50)	Inhalation - particle	0, 1, 2, 4	mg/m3	Whole Body	Whole Body	Survival	2	4	High Confidence (++)
						0, 1, 2, 4	mg/m3	Whole Body	Whole Body	Mean Body Weight	Statistics not performed	Statistics not performed	
						0, 1, 2, 4	mg/m3	Respiratory	Lung	Alveolar Epithelium, Hyperplasia	-	1	
						0, 1, 2, 4	mg/m3	Respiratory	Lung	Bronchiole Epithelium, Hyperplasia	-	1	
						0, 1, 2, 4	mg/m3	Respiratory	Lung	Lung Inflammation, Chronic	-	1	
						0, 1, 2, 4	mg/m3	Respiratory	Lung	Alveolus, Infiltration Cellular, Histiocyte	-	1	
						0, 1, 2, 4	mg/m3	Respiratory	Lung	Interstitial, Fibrosis	1	2	
						0, 1, 2, 4	mg/m3	Respiratory	Lung	Alveolar/bronchiolar Adenoma	1	2	
						0, 1, 2, 4	mg/m3	Respiratory	Lung	Alveolar/bronchiolar Carcinoma	-	1	
						0, 1, 2, 4	mg/m3	Respiratory	Larynx	Larynx, Respiratory Epithelium, Epiglottis, Metaplas	-	1	
						0, 1, 2, 4	mg/m3	Respiratory	Nose	Nose Inflammation, Suppurative	1	2	
						0, 1, 2, 4	mg/m3	Respiratory	Nose	Olfactory Epithelium, Atrophy	4	-	
						0, 1, 2, 4	mg/m3	Respiratory	Nose	Olfactory Epithelium, Degeneration, Hyaline	-	1	
						0, 1, 2, 4	mg/m3	Respiratory	Nose	Respiratory Epithelium, Degeneration, Hyaline	-	1	
						0, 1, 2, 4	mg/m3	Respiratory	Nose	Respiratory Epithelium, Metaplasia, Squamous	-	1	
						0, 1, 2, 4	mg/m3	Hematologic	Lymph Node	Bronchial Lymph Node Hyperplasia	4	-	
						0, 1, 2, 4	mg/m3	Metabolic	Spleen	Spleen, Hemangiosarcoma	4	-	
						0, 1, 2, 4	mg/m3	Ocular	Harderian Gland	Harderian Gland, Adenoma	4	-	
						0, 1, 2, 4	mg/m3	Ocular	Harderian Gland	Harderian Gland, Adenoma or Carcinoma	4	-	
						0, 1, 2, 4	mg/m3	Hepatic	Liver	Liver, Hepatocellular Adenoma	4	-	
						0, 1, 2, 4	mg/m3	Hepatic	Liver	Liver, Hepatocellular Carcinoma	4	-	
						0, 1, 2, 4	mg/m3	Hepatic	Liver	Liver, Hepatocellular Adenoma or Carcinoma	4	-	
						0, 1, 2, 4	mg/m3	Respiratory	Lung	Alveolar/bronchiolar Adenoma or Carcinoma	-	1	
				Mouse, B6C3F1 (Female, N=50)	Inhalation - particle	0, 1, 2, 4	mg/m3	Whole Body	Whole Body	Mean Body Weight	Statistics not performed	Statistics not performed	
						0, 1, 2, 4	mg/m3	Whole Body	Whole Body	Survival	4	-	
						0, 1, 2, 4	mg/m3	Respiratory	Lung	Alveolar Epithelium, Hyperplasia	-	1	
						0, 1, 2, 4	mg/m3	Respiratory	Lung	Bronchiole Epithelium, Hyperplasia	-	1	
						0, 1, 2, 4	mg/m3	Respiratory	Lung	Lung Inflammation, Chronic	-	1	
						0, 1, 2, 4	mg/m3	Respiratory	Lung	Alveolus, Infiltration Cellular, Histiocyte	-	1	
						0, 1, 2, 4	mg/m3	Respiratory	Lung	Interstitial, Fibrosis	1	2	
						0, 1, 2, 4	mg/m3	Respiratory	Lung	Alveolar/bronchiolar Adenoma	2	4	
						0, 1, 2, 4	mg/m3	Respiratory	Lung	Alveolar/bronchiolar Carcinoma	-	1	
						0, 1, 2, 4	mg/m3	Respiratory	Lung	Alveolar/bronchiolar Adenoma or Carcinoma	-	1	
						0, 1, 2, 4	mg/m3	Respiratory	Larynx	Larynx, Respiratory Epithelium, Epiglottis, Metaplas	-	1	
						0, 1, 2, 4	mg/m3	Respiratory	Nose	Nose Inflammation, Suppurative	1	2	
						0, 1, 2, 4	mg/m3	Respiratory	Nose	Olfactory Epithelium, Atrophy	-	1	
						0, 1, 2, 4	mg/m3	Respiratory	Nose	Olfactory Epithelium, Degeneration, Hyaline	-	1	
						0, 1, 2, 4	mg/m3	Respiratory	Nose	Respiratory Epithelium, Degeneration, Hyaline	1	2	
						0, 1, 2, 4	mg/m3	Respiratory	Nose	Respiratory Epithelium, Metaplasia, Squamous	1	2	
						0, 1, 2, 4	mg/m3	Respiratory	Nose	Respiratory Epithelium, Necrosis	2	4	
						0, 1, 2, 4	mg/m3	Hematologic	Lymph Node	Bronchial Lymph Node Hyperplasia	-	1	
				Rat, F344/N (Male, N=50)	Inhalation - particle	0, 0.5, 1, 2	mg/m3	Whole Body	Whole Body	Survival	2	-	
						0, 0.5, 1, 2	mg/m3	Whole Body	Whole Body	Mean Body Weight	2	-	
						0, 0.5, 1, 2	mg/m3	Respiratory	Lung	Alveolar Epithelium, Hyperplasia	-	0.5	
						0, 0.5, 1, 2	mg/m3	Respiratory	Lung	Bronchiole Epithelium, Hyperplasia	-	0.5	
						0, 0.5, 1, 2	mg/m3	Respiratory	Lung	Alveolar Epithelium, Metaplasia, Squamous	1	2	
						0, 0.5, 1, 2	mg/m3	Respiratory	Lung	Bronchiole Epithelium, Metaplasia, Squamous	1	2	
						0, 0.5, 1, 2	mg/m3	Respiratory	Lung	Lung Inflammation, Chronic Active	0.5	1	
						0, 0.5, 1, 2	mg/m3	Respiratory	Lung	Interstitial, Fibrosis	0.5	1	
						0, 0.5, 1, 2	mg/m3	Respiratory	Lung	Alveolus, Infiltration Cellular, Histiocyte	-	0.5	
						0, 0.5, 1, 2	mg/m3	Respiratory	Lung	Alveolus, Pigmentation	0.5	1	
						0, 0.5, 1, 2	mg/m3	Respiratory	Lung	Alveolar/bronchiolar Adenoma	2	-	
						0, 0.5, 1, 2	mg/m3	Respiratory	Lung	Alveolar/bronchiolar Carcinoma	2	-	
						0, 0.5, 1, 2	mg/m3	Respiratory	Larynx	Larynx Inflammation, Chronic	-	0.5	
						0, 0.5, 1, 2	mg/m3	Respiratory	Larynx	Respiratory Epithelium, Epiglottis, Degeneration	-	0.5	
						0, 0.5, 1, 2	mg/m3	Respiratory	Larynx	Respiratory Epithelium, Epiglottis, Hyperplasia	-	0.5	
						0, 0.5, 1, 2	mg/m3	Respiratory	Larynx	Respiratory Epithelium, Epiglottis, Metaplasia, Squamous	-	0.5	
						0, 0.5, 1, 2	mg/m3	Respiratory	Nose	Goblet Cell, Respiratory Epithelium, Hyperplasia	-	0.5	
NTP 2002 ^c	2-Year Inhalation	Chronic (104 weeks (6 hour plus T90 (12 minutes)/day, 5 days/week))	vanadium pentoxide			0, 0.5, 1, 2	mg/m3	Urinary	Kidney	Kidney nephropathy	0.5	1	Medium confidence (+)
						0, 0.5, 1, 2	mg/m3	Whole Body	Whole Body	Survival	2	-	
						0, 0.5, 1, 2	mg/m3	Whole Body	Whole Body	Mean Body Weight	2	-	
						0, 0.5, 1, 2	mg/m3	Respiratory	Lung	Alveolar Epithelium, Hyperplasia	0.5	1	
						0, 0.5, 1, 2	mg/m3	Respiratory	Lung	Bronchiole Epithelium, Hyperplasia	0.5	1	

						0, 0.5, 1, 2	mg/m3	Respiratory	Lung	Alveolar Epithelium, Metaplasia, Squamous	1	2	
						0, 0.5, 1, 2	mg/m3	Respiratory	Lung	Bronchiole Epithelium, Metaplasia, Squamous	2	-	
						0, 0.5, 1, 2	mg/m3	Respiratory	Lung	Lung Inflammation, Chronic Active	1	2	
						0, 0.5, 1, 2	mg/m3	Respiratory	Lung	Interstitial, Fibrosis	-	0.5	
						0, 0.5, 1, 2	mg/m3	Respiratory	Lung	Alveolus, Infiltration Cellular, Histiocyte	-	0.5	
						0, 0.5, 1, 2	mg/m3	Respiratory	Lung	Alveolus, Pigmentation	0.5	1	
						0, 0.5, 1, 2	mg/m3	Respiratory	Lung	Alveolar/bronchiolar Adenoma	2	-	
						0, 0.5, 1, 2	mg/m3	Respiratory	Lung	Alveolar/bronchiolar Carcinoma	2	-	
						0, 0.5, 1, 2	mg/m3	Respiratory	Larynx	Larynx Inflammation, Chronic	-	0.5	
						0, 0.5, 1, 2	mg/m3	Respiratory	Larynx	Respiratory Epithelium, Epiglottitis, Degeneration	-	0.5	
						0, 0.5, 1, 2	mg/m3	Respiratory	Larynx	Respiratory Epithelium, Epiglottitis, Hyperplasia	-	0.5	
						0, 0.5, 1, 2	mg/m3	Respiratory	Larynx	Respiratory Epithelium, Epiglottitis, Metaplasia, Squamous	1	2	
						0, 0.5, 1, 2	mg/m3	Reproductive	Uterus	Uterine stromal polyp	2	-	
						0, 0.5, 1, 2	mg/m3	Reproductive	Uterus	Uterine stromal sarcoma	2	-	
						0, 0.5, 1, 2	mg/m3	Urinary	Kidney	Kidney nephropathy	2	-	
						0, 0.25, 1, 4	mg/m3	Respiratory	Lung	Lung Weight, Absolute	0.25	1	
						0, 0.25, 1, 4	mg/m3	Respiratory	Lung	Lung Weight, Absolute	0.25	1	
						0, 0.25, 1, 4	mg/m3	Respiratory	Lung	right lung weight, absolute	-	0.25	
						0, 0.25, 1, 4	mg/m3	Respiratory	Lung	left lung weight, absolute	0.25	1	
						0, 0.25, 1, 4	mg/m3	Respiratory	Lung	Lung Weight, Absolute	0.25	1	
						0, 0.25, 1, 4	mg/m3	Respiratory	Lung	lung histopathology - multifocal/diffuse alveolar histiocytosis	0.25	1	Medium confidence (+)
						0, 0.25, 1, 4	mg/m3	Respiratory	Lung	lung histopathology - multifocal subacute alveolitis	0.25	1	
						0, 0.25, 1, 4	mg/m3	Respiratory	Lung	lung histopathology - multifocal granulocytic infiltration	0.25	1	
						0, 0.25, 1, 4	mg/m3	Whole Body	Whole Body	Mortality	4	-	
						0, 0.25, 1, 4	mg/m3	Whole Body	Whole Body	Body weight	1	4	