

Experiment Number: 20523 - 04
Test Type: CHRONIC
Route: RESPIRATORY EXPOSURE WHOLE BODY
Species/Strain: MICE/B6C3F1

P09: NON-NEOPLASTIC LESIONS BY INDIVIDUAL ANIMAL
Metal Working Fluids: Trim VX
CAS Number: TRIMVX

Date Report Requested: 02/02/2015
Time Report Requested: 13:50:12
First Dose M/F: 08/03/09 / 08/03/09
Lab: BNW

F1_M3

NTP Study Number: C20523
Lock Date: 06/04/2012
Cage Range: ALL
Date Range: ALL
Reasons For Removal: ALL
Removal Date Range: ALL
Treatment Groups: Include ALL
Study Gender: Both
TDMSE Version: 3.0.2.2_002
PWG Approval Date: NONE

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B6C3F1 MICE MALE Control	DAY ON TEST																									ANIMAL ID	males (cont...)																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																		
	0729	0730	0731	0732	0733	0734	0735	0736	0737	0738	0739	0740	0741	0742	0743	0744	0745	0746	0747	0748	0749	0750	0751	0752	0753			0754	0755	0756	0757	0758	0759	0760	0761	0762	0763	0764	0765	0766	0767	0768	0769	0770	0771	0772	0773	0774	0775	0776	0777	0778	0779	0780	0781	0782	0783	0784	0785	0786	0787	0788	0789	0790	0791	0792	0793	0794	0795	0796	0797	0798	0799	0800	0801	0802	0803	0804	0805	0806	0807	0808	0809	0810	0811	0812	0813	0814	0815	0816	0817	0818	0819	0820	0821	0822	0823	0824	0825	0826	0827	0828	0829	0830	0831	0832	0833	0834	0835	0836	0837	0838	0839	0840	0841	0842	0843	0844	0845	0846	0847	0848	0849	0850	0851	0852	0853	0854	0855	0856	0857	0858	0859	0860	0861	0862	0863	0864	0865	0866	0867	0868	0869	0870	0871	0872	0873	0874	0875	0876	0877	0878	0879	0880	0881	0882	0883	0884	0885	0886	0887	0888	0889	0890	0891	0892	0893	0894	0895	0896	0897	0898	0899	0900	0901	0902	0903	0904	0905	0906	0907	0908	0909	0910	0911	0912	0913	0914	0915	0916	0917	0918	0919	0920	0921	0922	0923	0924	0925	0926	0927	0928	0929	0930	0931	0932	0933	0934	0935	0936	0937	0938	0939	0940	0941	0942	0943	0944	0945	0946	0947	0948	0949	0950	0951	0952	0953	0954	0955	0956	0957	0958	0959	0960	0961	0962	0963	0964	0965	0966	0967	0968	0969	0970	0971	0972	0973	0974	0975	0976	0977	0978	0979	0980	0981	0982	0983	0984	0985	0986	0987	0988	0989	0990	0991	0992	0993	0994	0995	0996	0997	0998	0999	1000	1001	1002	1003	1004	1005	1006	1007	1008	1009	1010	1011	1012	1013	1014	1015	1016	1017	1018	1019	1020	1021	1022	1023	1024	1025	1026	1027	1028	1029	1030	1031	1032	1033	1034	1035	1036	1037	1038	1039	1040	1041	1042	1043	1044	1045	1046	1047	1048	1049	1050	1051	1052	1053	1054	1055	1056	1057	1058	1059	1060	1061	1062	1063	1064	1065	1066	1067	1068	1069	1070	1071	1072	1073	1074	1075	1076	1077	1078	1079	1080	1081	1082	1083	1084	1085	1086	1087	1088	1089	1090	1091	1092	1093	1094	1095	1096	1097	1098	1099	1100	1101	1102	1103	1104	1105	1106	1107	1108	1109	1110	1111	1112	1113	1114	1115	1116	1117	1118	1119	1120	1121	1122	1123	1124	1125	1126	1127	1128	1129	1130	1131	1132	1133	1134	1135	1136	1137	1138	1139	1140	1141	1142	1143	1144	1145	1146	1147	1148	1149	1150	1151	1152	1153	1154	1155	1156	1157	1158	1159	1160	1161	1162	1163	1164	1165	1166	1167	1168	1169	1170	1171	1172	1173	1174	1175	1176	1177	1178	1179	1180	1181	1182	1183	1184	1185	1186	1187	1188	1189	1190	1191	1192	1193	1194	1195	1196	1197	1198	1199	1200	1201	1202	1203	1204	1205	1206	1207	1208	1209	1210	1211	1212	1213	1214	1215	1216	1217	1218	1219	1220	1221	1222	1223	1224	1225	1226	1227	1228	1229	1230	1231	1232	1233	1234	1235	1236	1237	1238	1239	1240	1241	1242	1243	1244	1245	1246	1247	1248	1249	1250	1251	1252	1253	1254	1255	1256	1257	1258	1259	1260	1261	1262	1263	1264	1265	1266	1267	1268	1269	1270	1271	1272	1273	1274	1275	1276	1277	1278	1279	1280	1281	1282	1283	1284	1285	1286	1287	1288	1289	1290	1291	1292	1293	1294	1295	1296	1297	1298	1299	1300	1301	1302	1303	1304	1305	1306	1307	1308	1309	1310	1311	1312	1313	1314	1315	1316	1317	1318	1319	1320	1321	1322	1323	1324	1325	1326	1327	1328	1329	1330	1331	1332	1333	1334	1335	1336	1337	1338	1339	1340	1341	1342	1343	1344	1345	1346	1347	1348	1349	1350	1351	1352	1353	1354	1355	1356	1357	1358	1359	1360	1361	1362	1363	1364	1365	1366	1367	1368	1369	1370	1371	1372	1373	1374	1375	1376	1377	1378	1379	1380	1381	1382	1383	1384	1385	1386	1387	1388	1389	1390	1391	1392	1393	1394	1395	1396	1397	1398	1399	1400	1401	1402	1403	1404	1405	1406	1407	1408	1409	1410	1411	1412	1413	1414	1415	1416	1417	1418	1419	1420	1421	1422	1423	1424	1425	1426	1427	1428	1429	1430	1431	1432	1433	1434	1435	1436	1437	1438	1439	1440	1441	1442	1443	1444	1445	1446	1447	1448	1449	1450	1451	1452	1453	1454	1455	1456	1457	1458	1459	1460	1461	1462	1463	1464	1465	1466	1467	1468	1469	1470	1471	1472	1473	1474	1475	1476	1477	1478	1479	1480	1481	1482	1483	1484	1485	1486	1487	1488	1489	1490	1491	1492	1493	1494	1495	1496	1497	1498	1499	1500	1501	1502	1503	1504	1505	1506	1507	1508	1509	1510	1511	1512	1513	1514	1515	1516	1517	1518	1519	1520	1521	1522	1523	1524	1525	1526	1527	1528	1529	1530	1531	1532	1533	1534	1535	1536	1537	1538	1539	1540	1541	1542	1543	1544	1545	1546	1547	1548	1549	1550	1551	1552	1553	1554	1555	1556	1557	1558	1559	1560	1561	1562	1563	1564	1565	1566	1567	1568	1569	1570	1571	1572	1573	1574	1575	1576	1577	1578	1579	1580	1581	1582	1583	1584	1585	1586	1587	1588	1589	1590	1591	1592	1593	1594	1595	1596	1597	1598	1599	1600	1601	1602	1603	1604	1605	1606	1607	1608	1609	1610	1611	1612	1613	1614	1615	1616	1617	1618	1619	1620	1621	1622	1623	1624	1625	1626	1627	1628	1629	1630	1631	1632	1633	1634	1635	1636	1637	1638	1639	1640	1641	1642	1643	1644	1645	1646	1647	1648	1649	1650	1651	1652	1653	1654	1655	1656	1657	1658	1659	1660	1661	1662	1663	1664	1665	1666	1667	1668	1669	1670	1671	1672	1673	1674	1675	1676	1677	1678	1679	1680	1681	1682	1683	1684	1685	1686	1687	1688	1689	1690	1691	1692	1693	1694	1695	1696	1697	1698	1699	1700	1701	1702	1703	1704	1705	1706	1707	1708	1709	1710	1711	1712	1713	1714	1715	1716	1717	1718	1719	1720	1721	1722	1723	1724	1725	1726	1727	1728	1729	1730	1731	1732	1733	1734	1735	1736	1737	1738	1739	1740	1741	1742	1743	1744	1745	1746	1747	1748	1749	1750	1751	1752	1753	1754	1755	1756	1757	1758	1759	1760	1761	1762	1763	1764	1765	1766	1767	1768	1769	1770	1771	1772	1773	1774	1775	1776	1777	1778	1779	1780	1781	1782	1783	1784	1785	1786	1787	1788	1789	1790	1791	1792	1793	1794	1795	1796	1797	1798	1799	1800	1801	1802	1803	1804	1805	1806	1807	1808	1809	1810	1811	1812	1813	1814	1815	1816	1817	1818	1819	1820	1821	1822	1823	1824	1825	1826	1827	1828	1829	1830	1831	1832	1833	1834	1835	1836	1837	1838	1839	1840	1841	1842	1843	1844	1845	1846	1847	1848	1849	1850	1851	1852	1853	1854	1855	1856	1857	1858	1859	1860	1861	1862	1863	1864	1865	1866	1867	1868	1869	1870	1871	1872	1873	1874	1875	1876	1877	1878	1879	1880	1881	1882	1883	1884	1885	1886	1887	1888	1889	1890	1891	1892	1893	1894	1895	1896	1897	1898	1899	1900	1901	1902	1903	1904	1905	1906	1907	1908	1909	1910	1911	1912	1913	1914	1915	1916	1917	1918	1919	1920	1921	1922	1923	1924	1925	1926	1927	1928	1929	1930	1931	1932	1933	1934	1935	1936	1937	1938	1939	1940	1941	1942	1943	1944	1945	1946	1947	1948	1949	1950	1951	1952	1953	1954	1955	1956	1957	1958	1959	1960	1961	1962	1963	1964	1965	1966	1967	1968	1969	1970	1971	1972	1973	1974	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035

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 Lab: BNW

B6C3F1 MICE MALE Control	DAY ON TEST																								* TOTALS		
	0730	0732	0739	0738	0731	0737	0737	0737	0737	0736	0735	0737	0737	0737	0737	0737	0737	0737	0733	0737	0737	0736	0737	0737		0737	
ANIMAL ID	00026	00007	00008	00009	00000	00001	00002	00003	00004	00005	00006	00007	00008	00009	00000	00001	00002	00003	00004	00005	00006	00007	00008	00009			
Inflammation, Chronic																									2		
Pigmentation																										2	
Alveolar/bronchiolar Epithelium, Hyperplasia																										3	
Alveolar Epithelium, Hyperplasia																										3	
Nose	+	+	A	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	49		
Exudate																										2	
Inflammation, Suppurative																										1	
Inflammation, Chronic Active																										3	
Lateral Wall, Inflammation, Chronic Active																										2	
Nasolacrimal Duct, Abscess																										1	
Nasolacrimal Duct, Inflammation, Chronic Active																										3	
Olfactory Epithelium, Accumulation, Hyaline Droplet																										2	
Olfactory Epithelium, Metaplasia, Respiratory																										3	
Respiratory Epithelium, Accumulation, Hyaline Droplet																										7	
Respiratory Epithelium, Hyperplasia																										41	
Respiratory Epithelium, Metaplasia, Squamous																										1	
Respiratory Epithelium, Necrosis																										2	
Trachea	+	+	A	A	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	46		
Cartilage, Metaplasia, Osseous																										1	
SPECIAL SENSES SYSTEM																											
Eye	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	50	
Inflammation, Chronic Active																											1
Harderian Gland	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	50	

* .. Total animals with tissue examined microscopically; Total animals with lesion and mean severity grade
 + .. Tissue examined microscopically
 X .. Lesion present
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 M .. Missing tissue
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 1-4 .. Lesion qualified as:
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Lab: BNW

B6C3F1 MICE MALE	DAY ON TEST	0730	0621	0730	0674	0752	0679	0775	0577	0775	0664	0773	0777	0777	0474	0747	0445	0772	0773	0777	0777	0777	0777	males (cont...)
	ANIMAL ID	0020	0000	0000	0000	0000	0000	0000	0000	0000	0000	0000	0000	0000	0000	0000	0000	0000	0000	0000	0000	0000	0000	

Degeneration 1

Spinal Cord +

RESPIRATORY SYSTEM

Larynx	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
Foreign Body																							
Inflammation, Chronic Active	1	2	1	2	1	2	1	2	2	1	2		1	2	2	2	1	1	1	2	1	1	1
Necrosis																							
Epiglottis, Hyperplasia, Squamous				1									1										
Epiglottis, Metaplasia, Squamous	2	2	2	2	2	2	3	2	2	2	2	2	2	2	1	2	2	2	2	2	2	2	2
Lung	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
Fibrosis																		1				1	
Hemorrhage																							
Infiltration Cellular, Histiocyte									1									2			1	2	2
Inflammation, Chronic					1																1	1	1
Pigmentation																		2					
Thrombosis																							
Alveolar/bronchiolar Epithelium, Hyperplasia												1						1			1		2
Alveolar Epithelium, Hyperplasia																		1		1			
Nose	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
Exudate				1					1							1	2					1	
Inflammation, Chronic Active			1	1	1	1	1	1		1			1	1	1	1			1		1	1	1
Lateral Wall, Inflammation, Chronic Active								3															
Lateral Wall, Necrosis																	4				2		
Nasolacrimal Duct, Inflammation, Chronic Active																	4						
Nasopharyngeal Duct, Hyperplasia																							3

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

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B6C3F1 MICE MALE 10 mg/m3	DAY ON TEST																				* TOTALS						
	0730	0730	0730	0730	0730	0730	0730	0730	0730	0730	0730	0730	0730	0730	0730	0730	0730	0730	0730	0730		0730					
ANIMAL ID	0022	0022	0022	0022	0022	0022	0022	0022	0022	0022	0022	0022	0022	0022	0022	0022	0022	0022	0022	0022	0022						
Tension Lipidosis																						1	3 1.0				
Centrilobular, Hepatocyte, Fatty Change																							1	2 2.5			
Hepatocyte, Hypertrophy																								1	1 1.0		
Hepatocyte, Necrosis																							2	7 1.4			
Mesentery																								7			
Fat, Necrosis																								2	4 1.8		
Pancreas																									50		
Hemorrhage, Acute																									1	1 1.0	
Inflammation, Chronic Active																									1	3 1.3	
Duct, Hyperplasia																									1	1 1.0	
Salivary Glands																									50		
Stomach, Forestomach																									50		
Hyperplasia																									1	1 1.0	
Infiltration Cellular, Lymphoid																										1	1 1.0
Inflammation, Chronic Active																										1	3 1.3
Necrosis																										1	1 2.0
Stomach, Glandular																									50		
Inflammation, Chronic Active																									1	4 1.3	
Mineralization																									1	1 1.0	
Tooth																									10		
Dysplasia																									2	9 1.7	
Inflammation, Suppurative, Chronic Active																									2	2 3.5	

CARDIOVASCULAR SYSTEM

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	ANIMAL ID																							
	002226	002227	002228	002229	002230	002231	002232	002233	002234	002235	002236	002237	002238	002239	002240	002241	002242	002243	002244	002245	002246	002247	002248	002249
Blood Vessel	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	50
Heart	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	50
Cardiomyopathy		1			1	1			2	1							1			1	1		1	17
Inflammation, Chronic Active	2																						1	3
ENDOCRINE SYSTEM																								
Adrenal Cortex	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	50
Accessory Adrenal Cortical Nodule		1																						1
Hyperplasia						2																		2
Hypertrophy		1	1		1		2			1		1		1		1	1	2	1	1	1	2	1	30
Subcapsular, Hyperplasia																								1
Subcapsular, Hypertrophy								2																1
Adrenal Medulla	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	50
Angiectasis																	3							2
Hyperplasia												2						1	1					5
Islets, Pancreatic	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	50
Hyperplasia																								2
Parathyroid Gland	+	+	+	+	+	M	+	+	+	+	+	M	M	+	+	M	M	M	+	+	M	M	+	28
Cyst																								1
Pituitary Gland	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	49
Pars Distalis, Cyst						X																		1
Pars Distalis, Hyperplasia						1									2	1								3
Thyroid Gland	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	49

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Experiment Number: 20523 - 04
 Test Type: CHRONIC
 Route: RESPIRATORY EXPOSURE WHOLE BODY
 Species/Strain: MICE/B6C3F1

P09: NON-NEOPLASTIC LESIONS BY INDIVIDUAL ANIMAL
 Metal Working Fluids: Trim VX
 CAS Number: TRIMVX

Date Report Requested: 02/02/2015
 Time Report Requested: 13:50:12
 First Dose M/F: 08/03/09 / 08/03/09
 Lab: BNW

B6C3F1 MICE MALE 10 mg/m3	DAY ON TEST																				* TOTALS						
	0730	0730	0730	0730	0730	0730	0730	0730	0730	0730	0730	0730	0730	0730	0730	0730	0730	0730	0730	0730			0730				
ANIMAL ID	0022	0022	0022	0022	0022	0022	0022	0022	0022	0022	0022	0022	0022	0022	0022	0022	0022	0022	0022	0022	0022						
Myeloid Cell, Hyperplasia	2	2	1	2		1		1		2		1	1			2		1		1	2	1	29	1.4			
Lymph Node, Bronchial Hematopoietic Cell Proliferation Hyperplasia, Lymphoid Infiltration Cellular, Histiocyte	+	+	+	+	+	+	+	M	+	+	+	+	+	+	+	M	+	M	I	+	+	+	+	37	1 1.0 3 1.3 1 1.0		
Lymph Node, Mandibular Hyperplasia, Lymphoid Infiltration Cellular, Histiocyte	M	M	M	M	M	M	M	+	+	+	+	M	M	M	M	M	+	+	+	+	+	+	M	+	+	27	3 1.0 1 1.0
Lymph Node, Mediastinal Hyperplasia, Lymphoid	I	+	+	I	+	+	M	I	+	+	I	+	+	+	I	+	+	+	+	+	+	+	I	+	35	2 1.5	
Lymph Node, Mesenteric Hematopoietic Cell Proliferation Hyperplasia, Lymphoid Infiltration Cellular Inflammation, Chronic Active	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	49	3 1.3 11 1.5 1 2.0 1 1.0	
Spleen Angiectasis Hematopoietic Cell Proliferation Hyperplasia, Lymphoid Necrosis, Lymphoid	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	50	1 1.0 8 1.9 15 1.7 1 2.0	
Thymus Atrophy Cyst Ectopic Parathyroid Gland	I	+	+	I	+	+	+	I	+	I	+	+	+	+	+	+	+	+	+	+	+	+	+	44	5 2.4 3 2 1.0		

* .. 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
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 1) Minimal 3) Moderate
 2) Mild 4) Marked

Experiment Number: 20523 - 04
 Test Type: CHRONIC
 Route: RESPIRATORY EXPOSURE WHOLE BODY
 Species/Strain: MICE/B6C3F1

P09: NON-NEOPLASTIC LESIONS BY INDIVIDUAL ANIMAL
 Metal Working Fluids: Trim VX
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Date Report Requested: 02/02/2015
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 First Dose M/F: 08/03/09 / 08/03/09
 Lab: BNW

B6C3F1 MICE MALE 10 mg/m3	DAY ON TEST																								* TOTALS
	0730	0733	0732	0722	0733	0723	0732	0723	0728	0729	0720	0726	0727	0727	0727	0727	0727	0727	0727	0727	0727	0727	0727		
ANIMAL ID	0022	0022	0022	0022	0023	0023	0023	0023	0024	0025	0026	0027	0027	0027	0027	0027	0027	0027	0027	0027	0027	0027	0027		
Nasopharyngeal Duct, Inflammation, Chronic Active																								1 3.0	
Nasopharyngeal Duct, Perforation								X																1	
Olfactory Epithelium, Accumulation, Hyaline Droplet	2	2	2	2	2	2	1	2	1	1	1			2	2	2	2	2	2	1	1	2	1	2 1 2 1	46 1.5
Olfactory Epithelium, Atrophy																									1 1.0
Olfactory Epithelium, Metaplasia, Respiratory							1																		2 1.0
Respiratory Epithelium, Accumulation, Hyaline Droplet	2	2	2	2	2	2	2	2	1	2	2	1	1	2	2	2	2	2	2	2	2	2	2	2	49 1.9
Respiratory Epithelium, Atrophy							1																		1 1.0
Respiratory Epithelium, Hyperplasia	2	2	1	2	2	1	1	1	1	2	1	1	2	2	2	2	1	2	1	1	2	1	1	1	2 49 1.5
Respiratory Epithelium, Metaplasia, Squamous																									2 1.0
Respiratory Epithelium, Necrosis																									1 1.0
Turbinate, Atrophy																									2 1.5
Pleura																									1
Trachea	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	50
SPECIAL SENSES SYSTEM																									
Eye	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	50	
Inflammation, Chronic Active																									4 1.5
Harderian Gland	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	50	
Hyperplasia																									1 1.0
Inflammation																									1 1.0
URINARY SYSTEM																									
Kidney	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	50

* .. 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
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 1-4 .. Lesion qualified as:
 1) Minimal 3) Moderate
 2) Mild 4) Marked

Experiment Number: 20523 - 04
 Test Type: CHRONIC
 Route: RESPIRATORY EXPOSURE WHOLE BODY
 Species/Strain: MICE/B6C3F1

P09: NON-NEOPLASTIC LESIONS BY INDIVIDUAL ANIMAL
 Metal Working Fluids: Trim VX
 CAS Number: TRIMVX

Date Report Requested: 02/02/2015
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 First Dose M/F: 08/03/09 / 08/03/09
 Lab: BNW

B6C3F1 MICE MALE	DAY ON TEST	0729	0729	0730	0662	0773	0674	0753	0667	0554	0553	0773	0676	0777	0777	0722	0772	0773	0673	0663	0639	0774	0772	0779	males (cont...)
	ANIMAL ID	0040	0044	0044	0004	0004	0004	0004	0004	0004	0004	0004	0004	0004	0004	0004	0004	0004	0004	0004	0004	0004	0004	0004	

GENERAL BODY SYSTEM

NONE

GENITAL SYSTEM

Epididymis	+	+	+	+	+	+	+	+	+	+	+	A	+	+	+	+	+	+	+	+	+	+	+	+
Exfoliated Germ Cell	X	X	X	X	X	X	X		X		X	X		X	X	X	X	X	X	X		X	X	
Inflammation, Chronic Active																								1
Preputial Gland	+	+	+	+	+	+	+	+	+	+	+	A	+	+	+	+	+	+	+	+	+	+	+	+
Ectasia					1							1												
Inflammation, Chronic Active	4							2				1		1	4	1								
Necrosis																								3
Prostate	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
Hyperplasia																								1
Infiltration Cellular, Lymphoid																								2
Inflammation																								1
Seminal Vesicle	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
Infiltration Cellular, Lymphoid																								2
Inflammation																								2
Testes	+	+	+	+	+	+	+	+	+	+	+	A	+	+	+	+	+	+	+	+	+	+	+	+
Degeneration									2	1		1												1 1

HEMATOPOIETIC SYSTEM

Bone Marrow	+	+	+	+	+	+	+	+	+	+	+	+	A	+	+	+	+	+	+	+	+	+	+	+
-------------	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---

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Experiment Number: 20523 - 04

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: MICE/B6C3F1

P09: NON-NEOPLASTIC LESIONS BY INDIVIDUAL ANIMAL

Metal Working Fluids: Trim VX

CAS Number: TRIMVX

Date Report Requested: 02/02/2015

Time Report Requested: 13:50:12

First Dose M/F: 08/03/09 / 08/03/09

Lab: BNW

B6C3F1 MICE MALE 30 mg/m3	DAY ON TEST																								ANIMAL ID	males (cont...)																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																		
	0729	0729	0730	0730	0731	0731	0732	0732	0733	0733	0734	0734	0735	0735	0736	0736	0737	0737	0738	0738	0739	0739	0740	0740			0741	0741	0742	0742	0743	0743	0744	0744	0745	0745	0746	0746	0747	0747	0748	0748	0749	0749	0750	0750	0751	0751	0752	0752	0753	0753	0754	0754	0755	0755	0756	0756	0757	0757	0758	0758	0759	0759	0760	0760	0761	0761	0762	0762	0763	0763	0764	0764	0765	0765	0766	0766	0767	0767	0768	0768	0769	0769	0770	0770	0771	0771	0772	0772	0773	0773	0774	0774	0775	0775	0776	0776	0777	0777	0778	0778	0779	0779	0780	0780	0781	0781	0782	0782	0783	0783	0784	0784	0785	0785	0786	0786	0787	0787	0788	0788	0789	0789	0790	0790	0791	0791	0792	0792	0793	0793	0794	0794	0795	0795	0796	0796	0797	0797	0798	0798	0799	0799	0800	0800	0801	0801	0802	0802	0803	0803	0804	0804	0805	0805	0806	0806	0807	0807	0808	0808	0809	0809	0810	0810	0811	0811	0812	0812	0813	0813	0814	0814	0815	0815	0816	0816	0817	0817	0818	0818	0819	0819	0820	0820	0821	0821	0822	0822	0823	0823	0824	0824	0825	0825	0826	0826	0827	0827	0828	0828	0829	0829	0830	0830	0831	0831	0832	0832	0833	0833	0834	0834	0835	0835	0836	0836	0837	0837	0838	0838	0839	0839	0840	0840	0841	0841	0842	0842	0843	0843	0844	0844	0845	0845	0846	0846	0847	0847	0848	0848	0849	0849	0850	0850	0851	0851	0852	0852	0853	0853	0854	0854	0855	0855	0856	0856	0857	0857	0858	0858	0859	0859	0860	0860	0861	0861	0862	0862	0863	0863	0864	0864	0865	0865	0866	0866	0867	0867	0868	0868	0869	0869	0870	0870	0871	0871	0872	0872	0873	0873	0874	0874	0875	0875	0876	0876	0877	0877	0878	0878	0879	0879	0880	0880	0881	0881	0882	0882	0883	0883	0884	0884	0885	0885	0886	0886	0887	0887	0888	0888	0889	0889	0890	0890	0891	0891	0892	0892	0893	0893	0894	0894	0895	0895	0896	0896	0897	0897	0898	0898	0899	0899	0900	0900	0901	0901	0902	0902	0903	0903	0904	0904	0905	0905	0906	0906	0907	0907	0908	0908	0909	0909	0910	0910	0911	0911	0912	0912	0913	0913	0914	0914	0915	0915	0916	0916	0917	0917	0918	0918	0919	0919	0920	0920	0921	0921	0922	0922	0923	0923	0924	0924	0925	0925	0926	0926	0927	0927	0928	0928	0929	0929	0930	0930	0931	0931	0932	0932	0933	0933	0934	0934	0935	0935	0936	0936	0937	0937	0938	0938	0939	0939	0940	0940	0941	0941	0942	0942	0943	0943	0944	0944	0945	0945	0946	0946	0947	0947	0948	0948	0949	0949	0950	0950	0951	0951	0952	0952	0953	0953	0954	0954	0955	0955	0956	0956	0957	0957	0958	0958	0959	0959	0960	0960	0961	0961	0962	0962	0963	0963	0964	0964	0965	0965	0966	0966	0967	0967	0968	0968	0969	0969	0970	0970	0971	0971	0972	0972	0973	0973	0974	0974	0975	0975	0976	0976	0977	0977	0978	0978	0979	0979	0980	0980	0981	0981	0982	0982	0983	0983	0984	0984	0985	0985	0986	0986	0987	0987	0988	0988	0989	0989	0990	0990	0991	0991	0992	0992	0993	0993	0994	0994	0995	0995	0996	0996	0997	0997	0998	0998	0999	0999	1000	1000	1001	1001	1002	1002	1003	1003	1004	1004	1005	1005	1006	1006	1007	1007	1008	1008	1009	1009	1010	1010	1011	1011	1012	1012	1013	1013	1014	1014	1015	1015	1016	1016	1017	1017	1018	1018	1019	1019	1020	1020	1021	1021	1022	1022	1023	1023	1024	1024	1025	1025	1026	1026	1027	1027	1028	1028	1029	1029	1030	1030	1031	1031	1032	1032	1033	1033	1034	1034	1035	1035	1036	1036	1037	1037	1038	1038	1039	1039	1040	1040	1041	1041	1042	1042	1043	1043	1044	1044	1045	1045	1046	1046	1047	1047	1048	1048	1049	1049	1050	1050	1051	1051	1052	1052	1053	1053	1054	1054	1055	1055	1056	1056	1057	1057	1058	1058	1059	1059	1060	1060	1061	1061	1062	1062	1063	1063	1064	1064	1065	1065	1066	1066	1067	1067	1068	1068	1069	1069	1070	1070	1071	1071	1072	1072	1073	1073	1074	1074	1075	1075	1076	1076	1077	1077	1078	1078	1079	1079	1080	1080	1081	1081	1082	1082	1083	1083	1084	1084	1085	1085	1086	1086	1087	1087	1088	1088	1089	1089	1090	1090	1091	1091	1092	1092	1093	1093	1094	1094	1095	1095	1096	1096	1097	1097	1098	1098	1099	1099	1100	1100	1101	1101	1102	1102	1103	1103	1104	1104	1105	1105	1106	1106	1107	1107	1108	1108	1109	1109	1110	1110	1111	1111	1112	1112	1113	1113	1114	1114	1115	1115	1116	1116	1117	1117	1118	1118	1119	1119	1120	1120	1121	1121	1122	1122	1123	1123	1124	1124	1125	1125	1126	1126	1127	1127	1128	1128	1129	1129	1130	1130	1131	1131	1132	1132	1133	1133	1134	1134	1135	1135	1136	1136	1137	1137	1138	1138	1139	1139	1140	1140	1141	1141	1142	1142	1143	1143	1144	1144	1145	1145	1146	1146	1147	1147	1148	1148	1149	1149	1150	1150	1151	1151	1152	1152	1153	1153	1154	1154	1155	1155	1156	1156	1157	1157	1158	1158	1159	1159	1160	1160	1161	1161	1162	1162	1163	1163	1164	1164	1165	1165	1166	1166	1167	1167	1168	1168	1169	1169	1170	1170	1171	1171	1172	1172	1173	1173	1174	1174	1175	1175	1176	1176	1177	1177	1178	1178	1179	1179	1180	1180	1181	1181	1182	1182	1183	1183	1184	1184	1185	1185	1186	1186	1187	1187	1188	1188	1189	1189	1190	1190	1191	1191	1192	1192	1193	1193	1194	1194	1195	1195	1196	1196	1197	1197	1198	1198	1199	1199	1200	1200	1201	1201	1202	1202	1203	1203	1204	1204	1205	1205	1206	1206	1207	1207	1208	1208	1209	1209	1210	1210	1211	1211	1212	1212	1213	1213	1214	1214	1215	1215	1216	1216	1217	1217	1218	1218	1219	1219	1220	1220	1221	1221	1222	1222	1223	1223	1224	1224	1225	1225	1226	1226	1227	1227	1228	12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Experiment Number: 20523 - 04

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: MICE/B6C3F1

P09: NON-NEOPLASTIC LESIONS BY INDIVIDUAL ANIMAL

Metal Working Fluids: Trim VX

CAS Number: TRIMVX

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First Dose M/F: 08/03/09 / 08/03/09

Lab: BNW

B6C3F1 MICE MALE 30 mg/m3	DAY ON TEST																								* TOTALS
	0697	0731	0779	0770	0671	0672	0771	0772	0773	0774	0775	0776	0777	0778	0579	0770	0771	0772	0773	0774	0775	0776	0777	0778	
ANIMAL ID	00426	00447	00448	00449	00450	00451	00452	00453	00454	00455	00456	00457	00458	00459	00460	00461	00462	00463	00464	00465	00466	00467	00468	00469	00470
Basophilic Focus						X																			3
Clear Cell Focus			X						X	X				X		X									9
Eosinophilic Focus				X	X					X				X		X	X							X	17
Fibrosis																									1 2.0
Inflammation, Chronic Active																					1				2 1.0
Mixed Cell Focus			X																		X				6
Tension Lipidosis																									3 1.0
Hepatocyte, Necrosis									2										3	1	2				5 1.8
Periportal, Fatty Change																									1 2.0
Serosa, Fibrosis																									1 2.0
Mesentery																									4
Fat, Necrosis																									1 2.0
Pancreas																									49
Atrophy																									1 2.0
Salivary Glands																									49
Stomach, Forestomach																									49
Hyperplasia																									5 1.2
Inflammation, Chronic Active																									3 1.0
Necrosis																									1 2.0
Stomach, Glandular																									49
Infiltration Cellular, Lymphoid																									1 1.0
Inflammation, Chronic Active																									2 1.5
Mineralization																									2 1.0
Tooth																									8
Dysplasia																									7 1.9

* .. 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

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Lab: BNW

B6C3F1 MICE MALE 30 mg/m3	DAY ON TEST																								* TOTALS	
	0697	0732	0773	0776	0777	0777	0777	0777	0777	0777	0777	0777	0777	0777	0777	0777	0777	0777	0777	0777	0777	0777	0777	0777		
ANIMAL ID	00426	00442	00442	00442	00442	00442	00442	00442	00442	00442	00442	00442	00442	00442	00442	00442	00442	00442	00442	00442	00442	00442	00442	00442	00442	
Myeloid Cell, Hyperplasia	1		1	1	1		1	1	1	2											1	2			1	18 1.3
Lymph Node Lumbar, Hyperplasia, Lymphoid																										3 1 2.0
Lymph Node, Bronchial Hyperplasia, Lymphoid Plasma Cell, Hyperplasia																										39 2 1.0 1 1.0
Lymph Node, Mandibular Hyperplasia, Lymphoid Infiltration Cellular, Histiocyte																										25 2 1.0 1 1.0
Lymph Node, Mediastinal Hematopoietic Cell Proliferation Hyperplasia, Lymphoid																										41 1 1.0 1 1.0
Lymph Node, Mesenteric Angiectasis Hematopoietic Cell Proliferation Hyperplasia, Lymphoid Hyperplasia, Plasma Cell Inflammation, Chronic Active																										47 3 1.7 4 1.8 9 1.4 1 2.0 1 2.0
Spleen Hematopoietic Cell Proliferation Hyperplasia, Lymphoid																										49 11 1.7 9 1.8
Thymus Atrophy Cyst																										47 8 1.5 5 1.0

* .. 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

Experiment Number: 20523 - 04
 Test Type: CHRONIC
 Route: RESPIRATORY EXPOSURE WHOLE BODY
 Species/Strain: MICE/B6C3F1

P09: NON-NEOPLASTIC LESIONS BY INDIVIDUAL ANIMAL
 Metal Working Fluids: Trim VX
 CAS Number: TRIMVX

Date Report Requested: 02/02/2015
 Time Report Requested: 13:50:12
 First Dose M/F: 08/03/09 / 08/03/09
 Lab: BNW

B6C3F1 MICE MALE	DAY ON TEST	0730	0537	0722	0733	0421	0744	0578	0771	0770	0771	0772	0772	0772	0645	0729	0771	0567	0673	0733	0733	0733	0731	0778	0773	males (cont...)
	ANIMAL ID	0060	0066	0066	0066	0066	0066	0066	0066	0066	0066	0066	0066	0066	0066	0066	0066	0066	0066	0066	0066	0066	0066	0066	0066	

CARDIOVASCULAR SYSTEM

Blood Vessel	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
Heart	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
Cardiomyopathy			1		1		1	1	2		2	1			2	2			2		1			1
Inflammation, Chronic Active										2														

ENDOCRINE SYSTEM

Adrenal Cortex	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
Accessory Adrenal Cortical Nodule				1																				
Angiectasis																								1
Hyperplasia																								
Hypertrophy	1		3										1		1				3		1			1
Adrenal Medulla	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
Angiectasis																								1
Hyperplasia			1							1	2													
Hypertrophy																	1							
Islets, Pancreatic	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
Parathyroid Gland	+	+	M	+	M	+	+	+	+	+	M	+	+	M	M	+	+	+	+	+	M	+	+	+
Cyst																								
Pituitary Gland	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
Pars Distalis, Angiectasis																								
Pars Distalis, Cyst											X				X	X			X					
Pars Distalis, Hyperplasia																								3

* .. 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

Experiment Number: 20523 - 04

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: MICE/B6C3F1

P09: NON-NEOPLASTIC LESIONS BY INDIVIDUAL ANIMAL

Metal Working Fluids: Trim VX

CAS Number: TRIMVX

Date Report Requested: 02/02/2015

Time Report Requested: 13:50:12

First Dose M/F: 08/03/09 / 08/03/09

Lab: BNW

B6C3F1 MICE MALE 100 mg/m3	DAY ON TEST																				ANIMAL ID	males (cont...)				
	0730	0733	0737	0741	0744	0747	0751	0754	0757	0761	0764	0767	0771	0774	0777	0781	0784	0787	0791	0794			0797			
Epiglottis, Hyperplasia, Squamous	1	1		1	2	2	3	2		1	1	1	1	1	1	1	1	1		1	1	3				
Epiglottis, Metaplasia, Squamous	4	4	3	4	4	4	4	4		4	4	3	4	4	4	4	4	4	4	4	4	4				
Lung	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+				
Fibrosis	1		1	1	2	2	2	1	1	1		1	1	2	1	2	1		2	1	1	1	1			
Infiltration Cellular, Histiocyte	2	1	1	2	2	2	2	2	1	2	2	2	2	2	2	3		2	2	2	2	3	3	2		
Inflammation, Chronic	2	1	2	2	3	3	3	2	2	2	2	2	2	2	3	3	3	1	3	3	2	2	3	2	2	
Metaplasia, Osseous												1														
Pigmentation						2				1									1	1		1		1		
Alveolar/bronchiolar Epithelium, Hyperplasia	2	2	2	2	2	2	2	2	2	2	1	2	2	2	2	2	2	1	2	2	2	2	1	2		
Alveolar Epithelium, Hyperplasia	1	1	1	2	2	2	2	2		2	1	1	1	1	2	2	2		2	2	1	2	2	2		
Bronchiole, Metaplasia, Squamous																				1						
Nose	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+			
Exudate	3	1	3	2	2	4	3	3	2	1	4	4	2	4	2	2	2	2	3	3	3	3	3	2		
Inflammation, Chronic Active	2	1	2	1	1	2	2	1	1	1	1	1	1	2	1	1	1	2	2	2	1	2	2	2		
Glands, Olfactory Epithelium, Hyperplasia																							2			
Lateral Wall, Inflammation, Chronic Active											3					3							2			
Nasolacrimal Duct, Inflammation, Chronic Active												1							1							
Nasopharyngeal Duct, Perforation						X		X			X					X	X	X		X		X		X		
Olfactory Epithelium, Accumulation, Hyaline Droplet	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2			
Olfactory Epithelium, Atrophy																								1		
Olfactory Epithelium, Metaplasia, Respiratory																							2			
Respiratory Epithelium, Accumulation, Hyaline Droplet	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2			
Respiratory Epithelium, Atrophy	1		1	1		1	1	1		1		1	2		1	1	1	1	1	1	1	1	2	2		
Respiratory Epithelium, Hyperplasia	2		2	1	1	1	2	1	2	1	2	2	2	1	2	1	2	2	1	2	2	1	2	1		
Respiratory Epithelium, Metaplasia, Squamous																										
Respiratory Epithelium, Necrosis	1					1	1											1	1	1	1		1	1		

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

+ .. Tissue examined microscopically

X .. Lesion present

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1-4 .. Lesion qualified as:

1) Minimal 3) Moderate

2) Mild 4) Marked

Experiment Number: 20523 - 04
 Test Type: CHRONIC
 Route: RESPIRATORY EXPOSURE WHOLE BODY
 Species/Strain: MICE/B6C3F1

P09: NON-NEOPLASTIC LESIONS BY INDIVIDUAL ANIMAL
 Metal Working Fluids: Trim VX
 CAS Number: TRIMVX

Date Report Requested: 02/02/2015
 Time Report Requested: 13:50:12
 First Dose M/F: 08/03/09 / 08/03/09
 Lab: BNW

B6C3F1 MICE MALE 100 mg/m3	DAY ON TEST																				* TOTALS						
	0731	0733	0739	0773	0777	0779	0779	0779	0779	0779	0779	0779	0779	0779	0779	0779	0779	0779	0779	0779		0779					
ANIMAL ID	00626	00662	00668	00666	00666	00666	00666	00666	00666	00666	00666	00666	00666	00666	00666	00666	00666	00666	00666	00666	00666						
Lymph Node																					1						
Lymph Node, Bronchial Hyperplasia, Lymphoid Infiltration Cellular, Histiocyte Infiltration Cellular, Plasma Cell	+	+	+	+	+	+	M	+	+	+	+	+	+	+	M	+	I	+	+	+	+	+	M	39	14	1.4	
		1		1	1	3				1		1	2						2			1			7	1.6	
				2								2	1							2					1	2.0	
Lymph Node, Mandibular Hyperplasia, Lymphoid Infiltration Cellular, Histiocyte	+	M	M	+	+	+	+	M	M	M	+	+	M	+	+	M	+	I	+	+	+	+	+	M	27	1	1.0
	1												1												1	1.0	
Lymph Node, Mediastinal Hyperplasia, Lymphoid	M	M	M	+	+	+	+	+	M	+	+	+	+	+	A	+	M	+	+	+	+	+	+	+	40	5	1.2
																							1	1			
Lymph Node, Mesenteric Hematopoietic Cell Proliferation Hyperplasia, Lymphoid Inflammation, Chronic Active	+	+	+	+	+	+	+	+	+	+	+	+	+	+	A	M	+	+	+	+	+	+	+	+	48	1	2.0
	1				2	1																				6	1.3
										1																1	1.0
Spleen Hematopoietic Cell Proliferation Hyperplasia, Lymphoid	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	50	10	1.8
				1					2																	8	1.6
				2					2		2								1				1	3			
Thymus Atrophy Cyst Ectopic Thyroid Hyperplasia, Lymphoid	+	+	+	+	+	+	+	+	M	+	+	+	+	+	+	+	+	I	+	+	+	+	+	+	46	9	1.8
															2	1										5	
		X																			X		X		1	1.0	
																							2			4	2.0

INTEGUMENTARY SYSTEM

* .. 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

Experiment Number: 20523 - 04

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: MICE/B6C3F1

P09: NON-NEOPLASTIC LESIONS BY INDIVIDUAL ANIMAL

Metal Working Fluids: Trim VX

CAS Number: TRIMVX

Date Report Requested: 02/02/2015

Time Report Requested: 13:50:12

First Dose M/F: 08/03/09 / 08/03/09

Lab: BNW

B6C3F1 MICE MALE 100 mg/m3	DAY ON TEST																				* TOTALS						
	0731	0733	0732	0739	0733	0733	0729	0729	0731	0733	0730	0739	0739	0731	0736	0735	0736	0737	0737	0733		0733	0729	0729	0733	0733	0729
ANIMAL ID	00626	00662	00662	00662	00666	00666	00666	00666	00666	00666	00666	00666	00666	00666	00666	00666	00666	00666	00666	00666	00666	00666	00666	00666	00666	00666	00666
Epiglottis, Hyperplasia, Squamous		1					1		1			1		1				1		1						1	
Epiglottis, Metaplasia, Squamous	4	4	4	4	4	3	4	4	4	3	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4
Lung		+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
Fibrosis	1	1	2	2	2	1	1	2		2	1	2	2	1	1	1	1	1	1	1	1	1	1	1	1	1	
Infiltration Cellular, Histiocyte	2	2	2	2	2	2	3	2	1	2	2	3	3	2	1	1	2	2	2	2	1	2	2	2	2	2	
Inflammation, Chronic	2	3	3	3	3	3	3	3	2	3	3	3	3	2	2	2	2	3	3	2	2	2	2	2	2	2	
Metaplasia, Osseous																											
Pigmentation									1						2												
Alveolar/bronchiolar Epithelium, Hyperplasia	2	3	3	3	3	2	2	3	1	3	3	3	3	2	3	2	3	3	3	2	3	3	2	3	3	3	
Alveolar Epithelium, Hyperplasia	2	2	2	2	2	2	1	2	1	1	1	2	2	1	1	2	2	2	2	2	1	2	2	2	2	2	
Bronchiole, Metaplasia, Squamous																											
Nose		+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	
Exudate	3	1		3	3	2	3	3	3	3	3	2	2	1	3	2	3	2	2	3	2	3	1	2	3		
Inflammation, Chronic Active	2	2	1	2	1	1	1	1	2	2	1	2	2	1	2	2	2	2	1	1	1	2	1	1	2		
Glands, Olfactory Epithelium, Hyperplasia																											
Lateral Wall, Inflammation, Chronic Active	3		1																								
Nasolacrimal Duct, Inflammation, Chronic Active																											
Nasopharyngeal Duct, Perforation	X			X				X	X	X	X	X			X			X					X				
Olfactory Epithelium, Accumulation, Hyaline Droplet	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	
Olfactory Epithelium, Atrophy										1	1	1															
Olfactory Epithelium, Metaplasia, Respiratory		1		1												1											
Respiratory Epithelium, Accumulation, Hyaline Droplet	2	2	2	3	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	
Respiratory Epithelium, Atrophy	2			1	1	1	1	1	1	1	1	1	1		1	1	1	1		1	1	1		1	1	1	
Respiratory Epithelium, Hyperplasia	2	2	2	1	2	2	2	1	2	1	2	2	2	1	1	2	2		1	2	2	2	2	2	2	2	
Respiratory Epithelium, Metaplasia, Squamous																											
Respiratory Epithelium, Necrosis	1			1			1		1	1	1	1	3		1		1	1			1				1	1	

* .. 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

Experiment Number: 20523 - 04
 Test Type: CHRONIC
 Route: RESPIRATORY EXPOSURE WHOLE BODY
 Species/Strain: MICE/B6C3F1

P09: NON-NEOPLASTIC LESIONS BY INDIVIDUAL ANIMAL
 Metal Working Fluids: Trim VX
 CAS Number: TRIMVX

Date Report Requested: 02/02/2015
 Time Report Requested: 13:50:12
 First Dose M/F: 08/03/09 / 08/03/09
 Lab: BNW

B6C3F1 MICE MALE 100 mg/m3	DAY ON TEST																				* TOTALS		
	0731	0730	0729	0728	0727	0726	0725	0724	0723	0722	0721	0720	0719	0718	0717	0716	0715	0714	0713	0712		0711	0710
ANIMAL ID	00626	00662	00662	00666	00666	00666	00666	00666	00666	00666	00666	00666	00666	00666	00666	00666	00666	00666	00666	00666	00666	00666	
Turbinate, Atrophy				1				1						1						1		1	14
Turbinate, Perforation	X												X	X							X		13
Pleura																							1
Trachea	+	+	+	+	+	+	+	+	+	+	+	+	+	A	A	+	+	+	+	+	+	+	48
Cartilage, Metaplasia, Osseous Epithelium, Hyperplasia																							1 3
																							1.0 1.0
SPECIAL SENSES SYSTEM																							
Eye	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	49
Cataract																							1
Inflammation, Chronic Active																							3
																							4.0 2.3
Harderian Gland	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	50
Hyperplasia																							1
																							1.0
URINARY SYSTEM																							
Kidney	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	50
Cyst																							1
Hydronephrosis																							1
Infarct, Chronic																			2			2	2
Inflammation, Chronic Active																							2
Metaplasia, Osseous		2																					2
Nephropathy	2	2	1	2	2	1	2	2	3	2	1	2	2		1	1	2	2	2	2	2	2	49
																							1.8
Urinary Bladder	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	50

* .. 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

Experiment Number: 20523 - 04
Test Type: CHRONIC
Route: RESPIRATORY EXPOSURE WHOLE BODY
Species/Strain: MICE/B6C3F1

P09: NON-NEOPLASTIC LESIONS BY INDIVIDUAL ANIMAL
Metal Working Fluids: Trim VX
CAS Number: TRIMVX

Date Report Requested: 02/02/2015
Time Report Requested: 13:50:12
First Dose M/F: 08/03/09 / 08/03/09
Lab: BNW

*** 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
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1-4 .. Lesion qualified as:
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Experiment Number: 20523 - 04
 Test Type: CHRONIC
 Route: RESPIRATORY EXPOSURE WHOLE BODY
 Species/Strain: MICE/B6C3F1

P09: NON-NEOPLASTIC LESIONS BY INDIVIDUAL ANIMAL
 Metal Working Fluids: Trim VX
 CAS Number: TRIMVX

Date Report Requested: 02/02/2015
 Time Report Requested: 13:50:12
 First Dose M/F: 08/03/09 / 08/03/09
 Lab: BNW

B6C3F1 MICE FEMALE	DAY ON TEST																								* TOTALS
	0 7 3 1	0 7 3 3	0 7 3 3	0 7 2 1	0 7 3 1	0 7 7 3	0 6 3 1	0 7 3 2	0 7 3 7	0 6 3 2	0 7 3 7	0 7 3 2	0 7 3 1	0 3 5 3	0 7 3 3	0 7 3 3	0 7 3 3	0 6 1 3	0 7 8 3	0 7 3 3	0 6 2 8	0 7 3 2	0 6 3 2	0 7 3 2	
Control	ANIMAL ID																								
	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	
	2	2	2	2	3	3	3	3	3	3	3	3	3	3	3	4	4	4	4	4	4	4	4	5	
	6	7	8	9	0	1	2	3	4	5	6	7	8	9	0	1	2	3	4	5	6	7	8	9	

Inflammation, Chronic Active	1	4	1.8
Mineralization		1	1.0

CARDIOVASCULAR SYSTEM

Blood Vessel	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	50		
Heart	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	50		
Cardiomyopathy		2						1		1					1											12	1.3
Infiltration Cellular, Lymphoid																										1	1.0
Inflammation, Chronic Active																										1	2.0
Mineralization																										1	1.0
Coronary Artery, Fibrosis																										1	2.0

ENDOCRINE SYSTEM

Adrenal Cortex	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	50		
Accessory Adrenal Cortical Nodule	1																									2	1.0
Hematopoietic Cell Proliferation						1																				1	1.0
Hyperplasia		1						1		1												2	1			6	1.2
Hypertrophy	1				2			1											1							14	1.1
Inflammation, Chronic Active																										1	1.0
Adrenal Medulla	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	50		
Hyperplasia	1					1	1					1				2							1			11	1.1
Hypertrophy										1																1	1.0
Islets, Pancreatic	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	50		
Parathyroid Gland	+	+	+	M	+	M	+	+	+	+	+	+	+	+	+	M	+	+	+	+	+	+	+	+	35		
Ectopic Tissue																										1	1.0

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 1) Minimal 3) Moderate
 2) Mild 4) Marked

Experiment Number: 20523 - 04
 Test Type: CHRONIC
 Route: RESPIRATORY EXPOSURE WHOLE BODY
 Species/Strain: MICE/B6C3F1

P09: NON-NEOPLASTIC LESIONS BY INDIVIDUAL ANIMAL
 Metal Working Fluids: Trim VX
 CAS Number: TRIMVX

Date Report Requested: 02/02/2015
 Time Report Requested: 13:50:12
 First Dose M/F: 08/03/09 / 08/03/09
 Lab: BNW

B6C3F1 MICE FEMALE	DAY ON TEST																								* TOTALS					
	0731	0733	0733	0732	0733	0737	0731	0732	0734	0733	0733	0733	0735	0733	0733	0733	0733	0736	0737	0738	0733	0737	0736	0737		0732	0738	0737	0737	
Control	ANIMAL ID																													
	001	001	001	001	001	001	001	001	001	001	001	001	001	001	001	001	001	001	001	001	001	001	001	001	001	001	001	001	001	
Pituitary Gland	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	48	
Pars Distalis, Angiectasis																													1	5 1.0
Pars Distalis, Hyperplasia		1										2	2	2																11 1.5
Pars Distalis, Hypertrophy																														1 1.0
Pars Intermedia, Hyperplasia						3																								1 3.0
Thyroid Gland	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	50	
Cyst																														1 1.0
Follicular Cell, Hyperplasia												2																		3 1.7
GENERAL BODY SYSTEM																														
Tissue NOS																													1	
Hemorrhage																														1 4.0
GENITAL SYSTEM																														
Clitoral Gland	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	M 46	
Ovary	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	50	
Angiectasis																														1 1.0
Cyst																														13 4.0
Cyst, Multiple																														1
Hemorrhage																														1 4.0
Inflammation, Chronic Active																														2 2.5
Periovarian Tissue, Inflammation, Chronic Active																														1 2.0
Uterus	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	50	
Adenomyosis																														1 1.0
Angiectasis																														1 1.0

* .. 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

Experiment Number: 20523 - 04

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: MICE/B6C3F1

P09: NON-NEOPLASTIC LESIONS BY INDIVIDUAL ANIMAL

Metal Working Fluids: Trim VX

CAS Number: TRIMVX

Date Report Requested: 02/02/2015

Time Report Requested: 13:50:12

First Dose M/F: 08/03/09 / 08/03/09

Lab: BNW

B6C3F1 MICE FEMALE	DAY ON TEST																								* TOTALS
	0731	0733	0733	0732	0733	0737	0733	0733	0734	0733	0733	0733	0735	0733	0733	0733	0733	0736	0737	0736	0737	0736	0737		
Control	001	001	001	001	001	001	001	001	001	001	001	001	001	001	001	001	001	001	001	001	001	001	001		
	002	002	002	002	003	003	003	003	003	003	003	003	003	003	004	004	004	004	004	004	004	004	005		
	006	007	008	009	000	001	002	003	004	005	006	007	008	009	000	001	002	003	004	005	006	007	008		

Nose	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	50
Exudate				1				1						1		1			2					8 1.1
Inflammation, Chronic Active												2						1				1		4 1.3
Nasolacrimal Duct, Inflammation, Chronic Active															1									2 1.0
Olfactory Epithelium, Accumulation, Hyaline Droplet	1								2		1			1	2							1		14 1.2
Olfactory Epithelium, Atrophy																			1					1 1.0
Olfactory Epithelium, Metaplasia, Respiratory																	1							2 1.0
Respiratory Epithelium, Accumulation, Hyaline Droplet	1								2	1	1			1	1				1	1	1		1	23 1.2
Respiratory Epithelium, Atrophy																			1					1 1.0
Respiratory Epithelium, Hyperplasia	1	1	1	1	2	2	1	1	2	1	1	1	1	1	1	1	1	2		1	1	1	1	49 1.2
Respiratory Epithelium, Metaplasia, Squamous																			1					1 1.0
Trachea	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	49

SPECIAL SENSES SYSTEM

Eye	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	49
Harderian Gland Hyperplasia	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	50
				1																				3 1.0

URINARY SYSTEM

Kidney Cyst	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	49
Hyperplasia, Lymphoid																								1
Infarct, Chronic													1		2						2			4 1.8
Infiltration Cellular, Lymphoid																						2		1 2.0

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 + .. Tissue examined microscopically
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 I .. Insufficient tissue
 M .. Missing tissue
 A .. Autolysis precludes evaluation
 BLANK .. Not examined microscopically
 1-4 .. Lesion qualified as:
 1) Minimal 3) Moderate
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Experiment Number: 20523 - 04
 Test Type: CHRONIC
 Route: RESPIRATORY EXPOSURE WHOLE BODY
 Species/Strain: MICE/B6C3F1

P09: NON-NEOPLASTIC LESIONS BY INDIVIDUAL ANIMAL
 Metal Working Fluids: Trim VX
 CAS Number: TRIMVX

Date Report Requested: 02/02/2015
 Time Report Requested: 13:50:12
 First Dose M/F: 08/03/09 / 08/03/09
 Lab: BNW

B6C3F1 MICE FEMALE	DAY ON TEST																								* TOTALS		
	0731	0733	0733	0721	0731	0731	0731	0732	0733	0734	0733	0733	0731	0733	0733	0733	0733	0733	0733	0733	0733	0733	0733	0733			
Control	001	001	001	001	001	001	001	001	001	001	001	001	001	001	001	001	001	001	001	001	001	001	001	001			
	002	002	002	002	003	003	003	003	003	003	003	003	003	003	003	004	004	004	004	004	004	004	004	004	005		
	006	007	008	009	000	001	002	003	004	005	006	007	008	009	000	001	002	003	004	005	006	007	008	009	000		
Inflammation, Chronic Active																									1	2.0	
Mineralization																									2	1	2.0
Necrosis																									1	1.0	
Nephropathy	1	2	1	2	1	1	2	1			1			1		2	2	1		1	1	3		2	38	1.4	
Renal Tubule, Hyperplasia							2																		1	2.0	
Urinary Bladder	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	50		
Hyperplasia, Lymphoid																									2	2	1.0
Inflammation, Chronic Active				2																					2	2	1.5

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1-4 .. Lesion qualified as:
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Experiment Number: 20523 - 04
 Test Type: CHRONIC
 Route: RESPIRATORY EXPOSURE WHOLE BODY
 Species/Strain: MICE/B6C3F1

P09: NON-NEOPLASTIC LESIONS BY INDIVIDUAL ANIMAL
 Metal Working Fluids: Trim VX
 CAS Number: TRIMVX

Date Report Requested: 02/02/2015
 Time Report Requested: 13:50:12
 First Dose M/F: 08/03/09 / 08/03/09
 Lab: BNW

B6C3F1 MICE FEMALE 10 mg/m3	DAY ON TEST	0607	0777	0777	0777	0777	0777	0777	0777	0466	0766	0766	0766	0566	0666	0766	0766	0766	0766	0766	0766	0577	0777	ANIMAL ID	females (cont...)			
	0707	0332	0224	0332	0331	0331	0332	0333	0339	0339	0220	0220	0225	0777	0225	0222	0222	0222	0223	0223	0223	0332	0333			0338	0332	
Islets, Pancreatic		+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+				
Parathyroid Gland		+	+	M	+	+	M	M	M	+	+	+	+	M	+	+	+	+	M	+	M	M	M	+	M	+		
Pituitary Gland		+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+			
Pars Distalis, Angiectasis													1															
Pars Distalis, Hyperplasia						1	1					1					1	1	1		2	1			1			
Thyroid Gland		+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+			
Cyst																												
Inflammation, Chronic Active																												
GENERAL BODY SYSTEM																												
NONE																												
GENITAL SYSTEM																												
Clitoral Gland		+	+	+	+	+	+	+	+	+	+	+	+	I	+	+	+	+	+	+	M	+	+	+	+			
Ovary		+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	I	+	+	+	+	+			
Angiectasis																												
Cyst																												
Inflammation, Chronic Active											X	X																
Uterus		+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+			
Angiectasis																												
Inflammation, Chronic Active																												
Endometrium, Hyperplasia, Cystic																												

* .. 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
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1-4 .. Lesion qualified as:
 1) Minimal 3) Moderate
 2) Mild 4) Marked

Experiment Number: 20523 - 04
 Test Type: CHRONIC
 Route: RESPIRATORY EXPOSURE WHOLE BODY
 Species/Strain: MICE/B6C3F1

P09: NON-NEOPLASTIC LESIONS BY INDIVIDUAL ANIMAL
 Metal Working Fluids: Trim VX
 CAS Number: TRIMVX

Date Report Requested: 02/02/2015
 Time Report Requested: 13:50:12
 First Dose M/F: 08/03/09 / 08/03/09
 Lab: BNW

B6C3F1 MICE FEMALE 10 mg/m3	DAY ON TEST																				* TOTALS					
	0732	0732	0733	0733	0732	0731	0735	0732	0731	0731	0738	0733	0733	0733	0733	0732	0733	0733	0732	0733		0736	0737	0736	0735	0737
ANIMAL ID	00326	00337	00338	00339	00300	00301	00302	00303	00304	00305	00306	00307	00308	00309	00310	00311	00312	00313	00314	00315	00316	00317	00318	00319	00320	
Islets, Pancreatic	+	+	+	+	+	+	+	+	M	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	49	
Parathyroid Gland	M	M	+	+	+	M	+	+	+	M	+	+	+	+	M	M	+	M	+	M	+	M	M	+	30	
Pituitary Gland	+	+	+	+	+	+	M	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	49	
Pars Distalis, Angiectasis												1													2 1.0	
Pars Distalis, Hyperplasia		4								1	2	1		1					2		1			1	17 1.4	
Thyroid Gland	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	50	
Cyst												X													1	
Inflammation, Chronic Active									1										1						2 1.0	
GENERAL BODY SYSTEM																										
NONE																										
GENITAL SYSTEM																										
Clitoral Gland	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	48	
Ovary	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	49	
Angiectasis																									1 1.0	
Cyst						X								X				X		X					8	
Inflammation, Chronic Active																									1 3.0	
Uterus	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	50	
Angiectasis				1		1																			4 1.5	
Inflammation, Chronic Active										3															4 1.8	
Endometrium, Hyperplasia, Cystic	3	3	3	4		2	2	3	3	1		2		1	2	2	3	2		3	4		2	1	2	35 2.4

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1-4 .. Lesion qualified as:
 1) Minimal 3) Moderate
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Experiment Number: 20523 - 04
 Test Type: CHRONIC
 Route: RESPIRATORY EXPOSURE WHOLE BODY
 Species/Strain: MICE/B6C3F1

P09: NON-NEOPLASTIC LESIONS BY INDIVIDUAL ANIMAL
 Metal Working Fluids: Trim VX
 CAS Number: TRIMVX

Date Report Requested: 02/02/2015
 Time Report Requested: 13:50:12
 First Dose M/F: 08/03/09 / 08/03/09
 Lab: BNW

B6C3F1 MICE FEMALE	DAY ON TEST	ANIMAL ID																				females (cont...)		
		0637	0773	0773	0671	0775	0772	0773	0773	0773	0773	0772	0772	0773	0772	0773	0773	0773	0772	0773	0493		0675	0773
30 mg/m3		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
		5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	
		0	0	0	0	0	0	0	0	0	1	1	1	1	1	1	1	1	1	2	2	2	2	
		1	2	3	4	5	6	7	8	9	0	1	2	3	4	5	6	7	8	9	0	1		
		2	3	4	5	6	7	8	9	0	1	2	3	4	5	6	7	8	9	0	1	2		
Nephropathy		2			1					2	3		1	1	2				1	2	1	1		
Urinary Bladder		+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+		
Angiectasis		+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+		

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Experiment Number: 20523 - 04
 Test Type: CHRONIC
 Route: RESPIRATORY EXPOSURE WHOLE BODY
 Species/Strain: MICE/B6C3F1

P09: NON-NEOPLASTIC LESIONS BY INDIVIDUAL ANIMAL
 Metal Working Fluids: Trim VX
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 First Dose M/F: 08/03/09 / 08/03/09
 Lab: BNW

B6C3F1 MICE FEMALE	DAY ON TEST																				ANIMAL ID				
	01	07	07	07	06	07	06	07	07	07	07	07	07	07	07	07	07	07	07	07			07	07	
30 mg/m3	98	33	32	32	55	32	49	33	66	00	00	00	00	00	00	00	00	00	00	00	00	00			
	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00			
	55	55	55	55	55	55	55	55	55	55	55	55	55	55	55	55	55	55	55	55	55	55			
	22	22	22	22	33	33	33	33	33	33	33	33	33	33	33	33	44	44	44	44	44	44			
	66	77	88	99	00	11	22	33	44	55	66	77	88	99	00	11	22	33	44	55	66	77			
																						* TOTALS			
Fatty Change																						1 3.0			
Hematopoietic Cell Proliferation																						1 2.0			
Inflammation, Chronic Active																						1 2.0			
Hepatocyte, Hypertrophy																						1 3.0			
Hepatocyte, Necrosis					4													3	2						2 3.0
Mesentery														+									+		5
Fat, Necrosis														2									2		5 1.8
Pancreas	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+			
Atrophy																						49			
Inflammation, Chronic Active																						3 2.0			
Duct, Cyst																						1 1.0			
Salivary Glands	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+			
Stomach, Forestomach	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+			
Hyperkeratosis														1										1 1.0	
Hyperplasia														1										1 1.0	
Inflammation														1										1 1.0	
Inflammation, Chronic Active														1										1 1.0	
Ulcer														1										1 1.0	
Stomach, Glandular	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+			
Cyst																						49			
Inflammation, Chronic Active																						1			
																						2 1.0			

CARDIOVASCULAR SYSTEM

Blood Vessel	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
																						50

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Experiment Number: 20523 - 04

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: MICE/B6C3F1

P09: NON-NEOPLASTIC LESIONS BY INDIVIDUAL ANIMAL

Metal Working Fluids: Trim VX

CAS Number: TRIMVX

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First Dose M/F: 08/03/09 / 08/03/09

Lab: BNW

B6C3F1 MICE FEMALE	DAY ON TEST																				* TOTALS	
	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20		
30 mg/m3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
ANIMAL ID	00526	00527	00528	00529	00530	00531	00532	00533	00534	00535	00536	00537	00538	00539	00540	00541	00542	00543	00544	00545	00546	

Peripheral Nerve

+

1

Spinal Cord

+

1

RESPIRATORY SYSTEM

Larynx	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	50				
Inflammation, Chronic Active	1	2	2	1		2	1	1	1	1	1	3	1	1	2	1	2	2	1	1	2	1	1	1	48	1.4		
Epiglottis, Hyperplasia, Squamous	2		1		2		2					2		1			1		3					16	1.5			
Epiglottis, Metaplasia, Squamous	4	4	3	2	4	3	4	3	3	3	3	4	2	4	4	3	3	4	3	4	4	4	3	4	50	3.5		
Lung	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	50				
Fibrosis																									2	1.0		
Hemorrhage			2													2									2	2.0		
Infiltration Cellular, Histiocyte	1		1	1		2		1				2				1									15	1.2		
Inflammation, Chronic	2	1	1	1		1	1									1					1		1	1	26	1.1		
Mineralization												1													1	1.0		
Proteinosis																									1	2.0		
Alveolar/bronchiolar Epithelium, Hyperplasia	2		1	1											1						1				8	1.1		
Alveolar Epithelium, Hyperplasia											2														2	1.5		
Mediastinum, Necrosis																									1	2.0		
Nose	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	50				
Exudate	1	2	2	2	1	2	2	1	2	1	1	1	2	1	3	1	1	2	4	2	2			1	1	1	48	2.0
Inflammation, Chronic Active	1	1	1	1		1	1	1	1	1	1	1	1	1	1	1	1	2	2	1	1	1	2	1	2	49	1.2	
Nasolacrimal Duct, Inflammation, Chronic Active												2														2	2.0	
Nasopharyngeal Duct, Perforation			X																	X						14		
Olfactory Epithelium, Accumulation, Hyaline Droplet	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	50	2.0		
Olfactory Epithelium, Atrophy			1																							1	1.0	

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

+ .. Tissue examined microscopically

X .. Lesion present

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1-4 .. Lesion qualified as:

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2) Mild 4) Marked

Experiment Number: 20523 - 04
 Test Type: CHRONIC
 Route: RESPIRATORY EXPOSURE WHOLE BODY
 Species/Strain: MICE/B6C3F1

P09: NON-NEOPLASTIC LESIONS BY INDIVIDUAL ANIMAL
 Metal Working Fluids: Trim VX
 CAS Number: TRIMVX

Date Report Requested: 02/02/2015
 Time Report Requested: 13:50:12
 First Dose M/F: 08/03/09 / 08/03/09
 Lab: BNW

B6C3F1 MICE FEMALE	DAY ON TEST																								ANIMAL ID	females (cont...)	
	0 7 1 5	0 5 1 3	0 6 6 8	0 6 4 5	0 7 3 7	0 5 5 1	0 7 3 7	0 7 3 3	0 6 3 1	0 7 3 3	0 7 2 5	0 7 3 3	0 6 3 4	0 7 3 2	0 7 3 2	0 6 3 2	0 7 3 2	0 1 3 3	0 7 3 3	0 7 3 3	0 7 3 3	0 7 3 2	0 7 3 1	0 7 3 2			
100 mg/m3	0 0 7 0 1	0 0 7 0 2	0 0 7 0 3	0 0 7 0 4	0 0 7 0 5	0 0 7 0 6	0 0 7 0 7	0 0 7 0 8	0 0 7 0 9	0 0 7 1 0	0 0 7 1 1	0 0 7 1 1	0 0 7 1 1	0 0 7 1 1	0 0 7 1 1	0 0 7 1 1	0 0 7 1 1	0 0 7 1 1	0 0 7 1 1	0 0 7 2 2	0 0 7 2 2	0 0 7 2 2	0 0 7 2 2	0 0 7 2 3	0 0 7 2 4	0 0 7 2 5	

Iliac, Angiectasis
 Lumbar, Angiectasis
 Lumbar, Infiltration Cellular, Plasma Cell
 Renal, Angiectasis
 Renal, Infiltration Cellular, Plasma Cell
 Renal, Necrosis

2
2

Lymph Node, Bronchial
 Hyperplasia, Lymphoid
 Infiltration Cellular, Histiocyte
 Plasma Cell, Hyperplasia

+ + + + + + + + + + + M + + + + + + + M + + + +
 2 3 1 1 2 3 1
 2

Lymph Node, Mandibular
 Hyperplasia, Lymphoid
 Infiltration Cellular, Histiocyte

M + + + M + + + + + + + + + + + + + M + + +
 3

Lymph Node, Mediastinal
 Hyperplasia, Lymphoid
 Infiltration Cellular, Histiocyte
 Pigmentation

+ + + + I I + + + + + + + + + M + + + + + I +
 1 2 2

Lymph Node, Mesenteric
 Angiectasis
 Hematopoietic Cell Proliferation
 Hyperplasia, Lymphoid

I +
 2 1 1

Spleen
 Angiectasis
 Hematopoietic Cell Proliferation
 Hyperplasia, Lymphoid
 Inflammation, Suppurative

A +
 2 1 1 2 2 1 3 2 1 2 1 2 1

* .. 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
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 Lab: BNW

| B6C3F1 MICE FEMALE | DAY ON TEST | | | | | | | | | | | | | | | | | | | | ANIMAL ID | females
(cont...) | | | |
|--------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|----------------------|------------------|------------------|------------------|
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1 | 0
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4 | 0
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2 | 0
6
9
3 | 0
7
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2 | 0
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2 | 0
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2 | 0
7
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3 | 0
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3 | 0
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2 | | | 0
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1 | 0
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3
2 | |
| 100 mg/m3 | 0
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3 | 0
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4 | 0
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7 | 0
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8 | 0
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7
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2 | 0
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3 | 0
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7
4 | 0
0
7
5 |

Peripheral Nerve
 Degeneration

+

+
1

Spinal Cord

+

+

RESPIRATORY SYSTEM

| | | | | | | | | | | | | | | | | | | | | | | | | | |
|--|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Larynx | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| Inflammation, Chronic Active | 1 | 2 | | 1 | 2 | 2 | 2 | 2 | 2 | 1 | 1 | 2 | 1 | 2 | 1 | 1 | 2 | 1 | 2 | 1 | 1 | 1 | 2 | 2 | 2 |
| Necrosis | | | | | | | | | | | | | 1 | | | | | | | | | | | | |
| Epiglottis, Hyperplasia, Squamous | 3 | 1 | 1 | | 1 | 1 | 1 | 2 | 1 | 1 | 1 | 1 | 2 | | | 1 | 2 | 1 | 2 | | 1 | 1 | 1 | 1 | 2 |
| Epiglottis, Metaplasia, Squamous | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 |
| Lung | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| Fibrosis | 1 | 1 | | | 1 | 1 | 1 | 1 | 1 | | | | 2 | 1 | 1 | 1 | 1 | 2 | 2 | 1 | 1 | 1 | 2 | 2 | 2 |
| Hyperplasia, Lymphoid | | | | | | | | | | | | | | | | | | | | | | | | | |
| Infiltration Cellular, Histiocyte | 3 | 2 | 1 | | 2 | 1 | 2 | 2 | 3 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 3 | 2 | 2 | 2 |
| Inflammation, Chronic | 3 | 2 | 2 | | 3 | 3 | 3 | 3 | 3 | 2 | 2 | 3 | 2 | 2 | 2 | 2 | 3 | 3 | 2 | 2 | 2 | 3 | 2 | 2 | 3 |
| Metaplasia, Osseous | | | | | | | | | | 1 | | | | | | | | | | | | | | | |
| Metaplasia, Squamous | | | | | | | | | | | | | | | | | | | | | | | 1 | | |
| Pigmentation | | | | | | | | | | | | | | | | | | | | | | | 1 | | |
| Alveolar/bronchiolar Epithelium, Hyperplasia | 3 | 2 | 2 | | 3 | 3 | 3 | 3 | 3 | 1 | 3 | 3 | 2 | 2 | 3 | 3 | 3 | 3 | 3 | 2 | 2 | 3 | 2 | 3 | 3 |
| Alveolar Epithelium, Hyperplasia | 2 | 1 | 1 | | 2 | 2 | 2 | 2 | 2 | 1 | 3 | 2 | 2 | | 2 | 2 | 2 | 2 | 1 | 1 | 2 | 2 | 2 | 2 | 2 |
| Alveolar Epithelium, Metaplasia, Squamous | | | | | | | | | | | | | | | | | | | | | | | | | |
| Nose | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| Exudate | 4 | 3 | 3 | 2 | 1 | 3 | 2 | 3 | 3 | 3 | 2 | 2 | 4 | 3 | | 3 | 2 | 2 | 1 | 2 | 4 | 2 | 4 | 4 | 4 |
| Inflammation, Chronic Active | 2 | 1 | 2 | 2 | 1 | 1 | 1 | 1 | 1 | 2 | 2 | 2 | 2 | 2 | 1 | 2 | 2 | 1 | | 1 | 2 | 1 | 2 | 2 | 2 |
| Goblet Cell, Hyperplasia | | | | | | | | | | | | | | | | | 1 | | | | | | | | |
| Nasopharyngeal Duct, Perforation | | | X | | X | X | | | | | | | | X | X | | | | | X | | | | | |

* .. 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
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 Lab: BNW

| B6C3F1 MICE FEMALE
100 mg/m3 | DAY ON TEST | | | | | | | | | | | | | | | | | | | | | | | | ANIMAL ID | females
(cont...) |
|---|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|-----------------------|----------------------|----------------------|
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3 | 0
7
3
3 | 0
7
3
3 | 0
7
3
2 | 0
7
3
1 | 0
7
3
2 | | | |
| Olfactory Epithelium, Accumulation, Hyaline Droplet | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 0
0
7
0
1 | females
(cont...) | |
| Olfactory Epithelium, Atrophy | | | 1 | | | | | | | | | | | | | | | | | | | | 1 | 0
0
7
0
1 | females
(cont...) | |
| Olfactory Epithelium, Metaplasia, Respiratory | | | 1 | | | | | | | | | | 1 | | | | | | | | | | | 0
0
7
0
1 | females
(cont...) | |
| Respiratory Epithelium, Accumulation, Hyaline Droplet | 3 | 2 | 2 | 2 | 2 | 2 | 2 | 3 | 3 | 2 | 2 | 4 | 3 | 2 | 3 | 3 | 2 | 3 | 2 | 2 | 2 | 3 | 2 | 0
0
7
0
1 | females
(cont...) | |
| Respiratory Epithelium, Atrophy | 1 | 1 | 1 | | 1 | 1 | 1 | 1 | | 1 | | 1 | 2 | 1 | | 1 | 1 | | | | 1 | | 1 | 0
0
7
0
1 | females
(cont...) | |
| Respiratory Epithelium, Hyperplasia | 1 | 1 | 1 | 2 | 1 | 1 | 1 | 1 | 2 | 1 | 3 | 1 | 2 | 1 | 1 | 1 | 2 | 2 | 1 | 1 | 1 | 1 | 1 | 0
0
7
0
1 | females
(cont...) | |
| Respiratory Epithelium, Metaplasia, Squamous | | | | | | | | | | | | | | | | | | | | | 1 | | | 0
0
7
0
1 | females
(cont...) | |
| Respiratory Epithelium, Necrosis | | | 1 | | 1 | 1 | | | | | 1 | | | | | 1 | 1 | | | | 1 | | 1 | 0
0
7
0
1 | females
(cont...) | |
| Turbinate, Atrophy | 1 | | 1 | | 1 | 1 | | | | 1 | | | 1 | | | 1 | | | | 1 | 1 | 1 | 1 | 0
0
7
0
1 | females
(cont...) | |
| Turbinate, Perforation | | | | | X | | | | | | | | | | | | | | | | | | | 0
0
7
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1 | females
(cont...) | |
| Trachea | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 0
0
7
0
1 | females
(cont...) | |
| Pigmentation | | | | | 1 | | | | | | | | | | | | | | | | | | | 0
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7
0
1 | females
(cont...) | |
| Cartilage, Metaplasia, Osseous | 1 | | | | | | | | | | | | | | | | | | | | | | | 0
0
7
0
1 | females
(cont...) | |
| Epithelium, Degeneration | | | | | | | | | | | | | | | | | | | | | | | | 0
0
7
0
1 | females
(cont...) | |
| Epithelium, Hyperplasia | 1 | | 1 | | 2 | | | | | | | | | | | | | | | 2 | | | | 0
0
7
0
1 | females
(cont...) | |
| Epithelium, Necrosis | | | | | | | | | | | | | | | | | | | | | | | | 0
0
7
0
1 | females
(cont...) | |
| SPECIAL SENSES SYSTEM | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Ear | | | | | | | | | | | | | | | | | | | | | | | + | | | |
| Eye | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | | | |
| Inflammation, Chronic Active | | | | | | | | | | | | | | | | | | | | | | | 3 | | | |
| Cornea, Hyperplasia | | | | | | | | | | | | | | | | | | | | | | | 2 | | | |
| Harderian Gland | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | | | |
| Hyperplasia | | | | | | | | | | | | | | | | | | | | | | | | | | |

* .. Total animals with tissue examined microscopically; Total animals with lesion and mean severity grade
 + .. Tissue examined microscopically
 X .. Lesion present
 I .. Insufficient tissue
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 Lab: BNW

| B6C3F1 MICE FEMALE
100 mg/m3 | DAY ON TEST | | | | | | | | | | | | | | | | | | | | | | | | * TOTALS | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|---------------------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|----|---|----|-----|-------|-----|
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| ANIMAL ID | 0
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| Hepatocyte, Degeneration | | | | | | | | | | | | | | | | | | | | | | | | | 1 | 2 1.5 | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Hepatocyte, Hypertrophy | | | | | | | | | | | | | | | | | | | | | | | | | 1 | 1 1.0 | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Hepatocyte, Necrosis | | | | | | | | | | | | | | | | | | | | | | | | | 1 | 5 2.2 | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Mesentery | | | | | | | | | | | | | | | | | | | | | | | | | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 11 | | | | | |
| Fat, Necrosis | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 2 | 2.0 | | |
| Pancreas | | | | | | | | | | | | | | | | | | | | | | | | | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 | | | |
| Atrophy | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 3 | 1 3.0 | |
| Hypertrophy | | | | | | | | | | | | | | | | | | | | | | | | | 3 | | | | | | | | | | | | | | | | | | | | | | | | | | | 1 | 1.7 | |
| Infiltration Cellular, Lymphoid | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 1 | 1.0 | |
| Salivary Glands | | | | | | | | | | | | | | | | | | | | | | | | | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 | | |
| Stomach, Forestomach | | | | | | | | | | | | | | | | | | | | | | | | | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 | | |
| Hyperkeratosis | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 2 | 1.5 |
| Hyperplasia | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 2 | 1.5 |
| Inflammation | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 1 | 1.0 |
| Inflammation, Chronic Active | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 1 | 1.0 |
| Ulcer | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 2 | 2.0 |
| Stomach, Glandular | | | | | | | | | | | | | | | | | | | | | | | | | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 | |
| Inflammation, Chronic Active | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 1 | 2.0 |
| CARDIOVASCULAR SYSTEM | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Blood Vessel | | | | | | | | | | | | | | | | | | | | | | | | | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 | | |
| Heart | | | | | | | | | | | | | | | | | | | | | | | | | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 | | |
| Cardiomyopathy | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 1 | 1.3 |
| Inflammation, Chronic Active | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 1 | 2.3 |

* .. 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
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| B6C3F1 MICE FEMALE
100 mg/m3 | DAY ON TEST | | | | | | | | | | | | | | | | | | | | | | | | * TOTALS |
|---------------------------------|-------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|----------|
| | 0733 | 0673 | 0773 | 0773 | 0676 | 0773 | 0361 | 0678 | 0773 | 0361 | 0773 | 0676 | 0773 | 0572 | 0773 | 0771 | 0676 | 0773 | 0676 | 0773 | 0776 | 0773 | 0676 | 0773 | |
| ANIMAL ID | 00726 | 00727 | 00728 | 00729 | 00730 | 00731 | 00732 | 00733 | 00734 | 00735 | 00736 | 00737 | 00738 | 00739 | 00740 | 00741 | 00742 | 00743 | 00744 | 00745 | 00746 | 00747 | 00748 | 00749 | |
| | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| | 7 | 6 | 7 | 7 | 7 | 6 | 7 | 3 | 6 | 7 | 7 | 6 | 7 | 5 | 7 | 7 | 6 | 7 | 6 | 7 | 7 | 6 | 7 | 7 | |
| | 3 | 7 | 3 | 3 | 3 | 9 | 3 | 1 | 8 | 3 | 3 | 4 | 3 | 7 | 3 | 1 | 7 | 3 | 3 | 3 | 3 | 3 | 8 | 3 | |
| | 3 | 3 | 3 | 2 | 1 | 8 | 2 | 9 | 1 | 1 | 2 | 5 | 1 | 2 | 3 | 5 | 2 | 3 | 5 | 3 | 2 | 3 | 4 | 3 | |

| | | | |
|-----------------------------|---|---|-----|
| Necrosis | 4 | 1 | 4.0 |
| Thrombosis | 4 | 1 | 4.0 |
| Coronary Artery, Thrombosis | | 1 | 1.0 |

ENDOCRINE SYSTEM

| | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|-----------------------------------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|----|----|-----|-----|
| Adrenal Cortex | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 | | | |
| Accessory Adrenal Cortical Nodule | | | | | | | | | | | | | | | | | | | | | | | | | | | 1 | 1.0 |
| Angiectasis | | | | | | | | | | | | 1 | | | | | | | | | | | | | | | 2 | 1.5 |
| Degeneration, Cystic | | | | | | | | | | | | | | | | | | | 3 | | | | | | | | 1 | 3.0 |
| Hyperplasia | 1 | | | | | | | | | | 1 | | 1 | | | | | | | | | | | | | | 7 | 1.1 |
| Hypertrophy | | | | 2 | | | | | | | 1 | 1 | | | | | | | | | 1 | | | | | | 10 | 1.1 |
| Adrenal Medulla | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 | | | |
| Hyperplasia | | | | | | | | 1 | | | | 1 | | | | | | | | | | | | | | | 5 | 1.0 |
| Pigmentation | | | | | | | | | | | | | | | | | | | | | | | | | | | 1 | 1.0 |
| Islets, Pancreatic | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 | | | |
| Parathyroid Gland | + | M | M | M | + | + | + | + | + | + | M | + | M | M | + | + | + | + | + | + | M | + | + | + | 28 | | | |
| Pituitary Gland | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | M | + | + | + | + | + | + | 49 | | | |
| Pars Distalis, Angiectasis | | | | 1 | | | | | | | | | 1 | | | | | | | | | 2 | | | | 5 | 1.2 | |
| Pars Distalis, Cyst | | | | | | | | | | | | | X | | | | | | | | | | | | | 1 | | |
| Pars Distalis, Hyperplasia | 2 | | | | | | | | | | 1 | | | | | | | | | | | | | | | 10 | 1.4 | |
| Pars Distalis, Hypertrophy | | | | | | | | | | | | | | | | | | | | | | | | | | 1 | 2.0 | |
| Thyroid Gland | + | + | + | + | + | + | + | + | + | + | + | + | M | + | + | + | + | + | + | + | + | + | + | + | 49 | | | |
| Inflammation, Chronic Active | | | | | | | | | | | | | | | | | | | | | | | | | | 1 | 1.0 | |
| Follicular Cell, Hyperplasia | | | | | | | | | | | | | | | | | | | | | | 1 | 2 | | | 2 | 1.5 | |

* .. 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

Experiment Number: 20523 - 04
 Test Type: CHRONIC
 Route: RESPIRATORY EXPOSURE WHOLE BODY
 Species/Strain: MICE/B6C3F1

P09: NON-NEOPLASTIC LESIONS BY INDIVIDUAL ANIMAL
 Metal Working Fluids: Trim VX
 CAS Number: TRIMVX

Date Report Requested: 02/02/2015
 Time Report Requested: 13:50:12
 First Dose M/F: 08/03/09 / 08/03/09
 Lab: BNW

| B6C3F1 MICE FEMALE
100 mg/m3 | DAY ON TEST | | | | | | | | | | | | | | | | | | | | | | | | * TOTALS |
|---|-------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|--|
| | 0733 | 0673 | 0773 | 0773 | 0676 | 0773 | 0363 | 0673 | 0673 | 0673 | 0673 | 0673 | 0673 | 0673 | 0673 | 0673 | 0673 | 0673 | 0673 | 0673 | 0673 | 0673 | 0673 | | |
| ANIMAL ID | 00726 | 00727 | 00728 | 00729 | 00730 | 00731 | 00732 | 00733 | 00734 | 00735 | 00736 | 00737 | 00738 | 00739 | 00740 | 00741 | 00742 | 00743 | 00744 | 00745 | 00746 | 00747 | 00748 | 00749 | |
| Iliac, Angiectasis | | | | | | | | | | | | | | | | | | | | | | | 2 | 1 2.0 | |
| Lumbar, Angiectasis | | | | 2 | | | | | | | | | | | | | | | | | | | | | 1 2.0 |
| Lumbar, Infiltration Cellular, Plasma Cell | | | | | | | | | | | | | | | | | | | | | | | | | 1 2.0 |
| Renal, Angiectasis | | | | 1 | | | | | | | | | | | | | | | | | | | | | 1 1.0 |
| Renal, Infiltration Cellular, Plasma Cell | | | | | | | | | | | | | | | | | | | | | | | | | 1 2.0 |
| Renal, Necrosis | | | | 3 | | | | | | | | | | | | | | | | | | | | | 1 3.0 |
| Lymph Node, Bronchial
Hyperplasia, Lymphoid
Infiltration Cellular, Histiocyte
Plasma Cell, Hyperplasia | + | + | + | M | I | + | M | + | + | + | + | M | + | + | + | + | + | + | + | + | + | + | I | + | 43
9 2.0
4 2.0
1 1.0 |
| Lymph Node, Mandibular
Hyperplasia, Lymphoid
Infiltration Cellular, Histiocyte | M | M | + | M | + | M | M | M | + | + | + | + | M | + | + | + | + | + | + | M | + | + | + | + | 39
1 3.0
1 1.0 |
| Lymph Node, Mediastinal
Hyperplasia, Lymphoid
Infiltration Cellular, Histiocyte
Pigmentation | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | M | 45
5 1.8
1 2.0
1 2.0 |
| Lymph Node, Mesenteric
Angiectasis
Hematopoietic Cell Proliferation
Hyperplasia, Lymphoid | + | + | + | + | + | + | + | + | A | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 48
1 2.0
1 2.0
4 1.8 |
| Spleen
Angiectasis
Hematopoietic Cell Proliferation
Hyperplasia, Lymphoid
Inflammation, Suppurative | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 49
1 1.0
11 1.9
13 1.6
1 2.0 |

* .. 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

Experiment Number: 20523 - 04
 Test Type: CHRONIC
 Route: RESPIRATORY EXPOSURE WHOLE BODY
 Species/Strain: MICE/B6C3F1

P09: NON-NEOPLASTIC LESIONS BY INDIVIDUAL ANIMAL
 Metal Working Fluids: Trim VX
 CAS Number: TRIMVX

Date Report Requested: 02/02/2015
 Time Report Requested: 13:50:12
 First Dose M/F: 08/03/09 / 08/03/09
 Lab: BNW

| B6C3F1 MICE FEMALE | DAY ON TEST | | | | | | | | | | | | | | | | | | | | * TOTALS |
|--------------------|-------------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|----------|
| | 0733 | 0673 | 0773 | 0773 | 0676 | 0773 | 0331 | 0667 | 0773 | 0331 | 0667 | 0773 | 0577 | 0773 | 0676 | 0773 | 0676 | 0773 | 0676 | 0773 | |
| 100 mg/m3 | 0026 | 0077 | 0077 | 0077 | 0077 | 0077 | 0077 | 0077 | 0077 | 0077 | 0077 | 0077 | 0077 | 0077 | 0077 | 0077 | 0077 | 0077 | 0077 | 0077 | 2 |
| ANIMAL ID | 0726 | 0777 | 0777 | 0777 | 0777 | 0777 | 0777 | 0777 | 0777 | 0777 | 0777 | 0777 | 0777 | 0777 | 0777 | 0777 | 0777 | 0777 | 0777 | 0777 | 1.0 |

| | | | |
|-------------------------------|---|---|-----|
| Peripheral Nerve Degeneration | 2 | 1 | 1.0 |
| Spinal Cord | 2 | | |

RESPIRATORY SYSTEM

| | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|--|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|----|---|---|----|-----|-----|-----|
| Larynx | | | | | | | | | | | | | | | | | | | | | 50 | | | | | | |
| Inflammation, Chronic Active | 2 | 1 | 1 | 1 | 1 | 1 | 2 | 2 | 1 | 2 | 2 | 1 | 2 | 2 | 1 | 2 | 2 | 2 | 2 | 2 | 2 | 1 | 2 | 47 | 1.6 | | |
| Necrosis | | 1 | | | | | | | | | | 1 | | | | | | | | | | | | 3 | 1.0 | | |
| Epiglottis, Hyperplasia, Squamous | 2 | 2 | | | 1 | 2 | | 1 | 3 | 1 | 1 | 2 | 2 | 2 | 3 | 3 | 2 | 1 | 2 | 1 | 2 | 2 | 1 | 2 | 42 | 1.6 | |
| Epiglottis, Metaplasia, Squamous | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 50 | 4.0 | |
| Lung | | | | | | | | | | | | | | | | | | | | | 50 | | | | | | |
| Fibrosis | 2 | 1 | | 2 | 2 | 1 | 2 | 1 | | 1 | 2 | 1 | 2 | 2 | 1 | | 2 | 1 | 2 | 2 | 2 | 1 | 1 | | 42 | 1.5 | |
| Hyperplasia, Lymphoid | | | | | | | | | | | | | | | | 2 | | | | | | | | | 1 | 2.0 | |
| Infiltration Cellular, Histiocyte | 2 | 2 | 2 | 3 | 4 | 2 | 3 | 1 | | 3 | 3 | 2 | 2 | 2 | 3 | 4 | 3 | 2 | 2 | 2 | 2 | 2 | 2 | 4 | 48 | 2.3 | |
| Inflammation, Chronic | 3 | 2 | | 3 | 3 | 2 | 3 | 2 | 3 | 2 | 3 | 2 | 2 | 2 | 3 | 2 | | 3 | 2 | 3 | 3 | 3 | 2 | 2 | 47 | 2.4 | |
| Metaplasia, Osseous | | | | | | | | | | | | | | | | | | | | | | | | | 1 | 1.0 | |
| Metaplasia, Squamous | | | | | | | | | | | | | | | | | | | | | | | | | 1 | 1.0 | |
| Pigmentation | | | | | | | | | | | | | | | | | | | | | | | | | 1 | 1.0 | |
| Alveolar/bronchiolar Epithelium, Hyperplasia | 3 | 2 | | 3 | 3 | 3 | 3 | 2 | | 2 | 3 | 3 | 3 | 3 | 3 | | 3 | 2 | 3 | 3 | 3 | 2 | 2 | 2 | 45 | 2.6 | |
| Alveolar Epithelium, Hyperplasia | | 1 | | 2 | 2 | 1 | 2 | | | 2 | 2 | 2 | 2 | 2 | 4 | 1 | | 2 | 2 | 2 | 2 | 2 | 1 | 2 | 2 | 43 | 1.9 |
| Alveolar Epithelium, Metaplasia, Squamous | | | | | 2 | | | | | | | | | | | | | | | | | | | | 1 | 2.0 | |
| Nose | | | | | | | | | | | | | | | | | | | | | 50 | | | | | | |
| Exudate | 4 | 2 | 3 | 4 | 4 | 4 | 4 | 4 | 3 | 4 | 3 | 2 | 2 | 2 | 3 | 3 | 2 | 3 | 3 | 3 | 3 | 3 | 2 | 3 | 2 | 49 | 2.9 |
| Inflammation, Chronic Active | 2 | 1 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 1 | 1 | 2 | 2 | 2 | 1 | 2 | 1 | 1 | 1 | 2 | 1 | 1 | 49 | 1.6 | |
| Goblet Cell, Hyperplasia | | | | | | | | 1 | | | | | | | | | | | | | | | | | 2 | 1.0 | |
| Nasopharyngeal Duct, Perforation | | X | | X | X | X | X | | | X | | | | | X | | | X | | X | X | X | | | 17 | | |

* .. 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

Experiment Number: 20523 - 04
 Test Type: CHRONIC
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 Species/Strain: MICE/B6C3F1

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 Metal Working Fluids: Trim VX
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Date Report Requested: 02/02/2015
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 First Dose M/F: 08/03/09 / 08/03/09
 Lab: BNW

| B6C3F1 MICE FEMALE
100 mg/m3 | DAY ON TEST | | | | | | | | | | | | | | | | | | | | | | | | * TOTALS | |
|---|-------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|----|----------|--|
| | 0733 | 0733 | 0732 | 0733 | 0731 | 0738 | 0732 | 0739 | 0731 | 0732 | 0735 | 0731 | 0732 | 0735 | 0732 | 0733 | 0735 | 0733 | 0732 | 0733 | 0734 | 0733 | 0732 | | | |
| ANIMAL ID | 00726 | 00707 | 00708 | 00700 | 00700 | 00707 | 00707 | 00707 | 00700 | 00700 | 00700 | 00700 | 00700 | 00700 | 00700 | 00700 | 00700 | 00700 | 00700 | 00700 | 00700 | 00700 | 00700 | | | |
| Olfactory Epithelium, Accumulation, Hyaline Droplet | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 50 | 2.0 | |
| Olfactory Epithelium, Atrophy | | | | 1 | | | | | | | 1 | | | | | | | | | 1 | | | | 5 | 1.0 | |
| Olfactory Epithelium, Metaplasia, Respiratory | | | | | | | | | 1 | | | | | | 1 | | | | | | | | | 4 | 1.0 | |
| Respiratory Epithelium, Accumulation, Hyaline Droplet | 4 | 2 | 2 | 4 | 3 | 2 | 3 | 4 | 2 | 2 | 2 | 3 | 2 | 3 | 4 | 3 | 2 | 4 | 2 | 3 | 3 | 3 | 2 | 50 | 2.6 | |
| Respiratory Epithelium, Atrophy | 1 | 1 | 1 | 2 | 1 | 1 | 1 | 1 | 1 | 2 | 1 | 1 | | 1 | 1 | | 1 | 2 | 1 | 1 | 1 | 1 | 1 | 39 | 1.1 | |
| Respiratory Epithelium, Hyperplasia | 1 | 1 | 1 | 1 | 2 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | | 1 | 2 | 1 | 2 | 1 | 2 | 2 | 2 | 49 | 1.3 | |
| Respiratory Epithelium, Metaplasia, Squamous | | | | | | | | | | | 1 | | | | | | | | | | | | | 2 | 1.0 | |
| Respiratory Epithelium, Necrosis | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | | 1 | | | | 1 | | | 1 | | 1 | 1 | 1 | | | 23 | 1.0 | |
| Turbinate, Atrophy | | 1 | | 1 | 1 | 1 | 1 | | | 1 | | | | 1 | | | | | 1 | | | | | 19 | 1.0 | |
| Turbinate, Perforation | | | | X | | X | | | | X | | | | X | | | X | | | | | | | 6 | | |
| Trachea | + | + | + | + | + | + | + | + | + | + | + | + | + | A | + | + | + | + | + | + | + | + | + | 49 | | |
| Pigmentation | | | | | | | | | | | | | | | | | | | | | | | | 1 | 1.0 | |
| Cartilage, Metaplasia, Osseous | | | | | | | | | | 1 | | | | | | 1 | | 1 | | | | | | 4 | 1.0 | |
| Epithelium, Degeneration | | | | | | | | | | | | 1 | | | | | | 2 | | | | | | 2 | 1.5 | |
| Epithelium, Hyperplasia | | | | | | 1 | | | | | | | | | | | | | | | | | | 5 | 1.4 | |
| Epithelium, Necrosis | | | | | | | | | | | | | | | | | | | | | 1 | | | 1 | 1.0 | |
| SPECIAL SENSES SYSTEM | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Ear | | | | | | | | | | | | | | | | | | | | | | | | 1 | | |
| Eye | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 | | |
| Inflammation, Chronic Active | | | | | | | | | | | | | | | | | | | | | | | | 1 | 3.0 | |
| Cornea, Hyperplasia | | | | | | | | | | | | | | | | | | | | | | | | 1 | 2.0 | |
| Harderian Gland | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | A | + | + | + | + | + | + | 49 | | |
| Hyperplasia | | | | | | | | | | 1 | | | | | | | | | | | | | | 1 | 1.0 | |

* .. 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
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