

Experiment Number: 20515 - 03
Test Type: CHRONIC
Route: RESPIRATORY EXPOSURE WHOLE BODY
Species/Strain: RATS/Wistar Han

P17: NEOPLASMS BY INDIVIDUAL ANIMAL (SYSTEMIC LESIONS ABRIDGED)
Metal working fluids (CIMSTAR 3800)
CAS Number: CIMSTAR3800

Date Report Requested: 02/18/2014
Time Report Requested: 12:32:34
First Dose M/F: 04/14/08 / 04/14/08
Lab: BNW

F2_RE

NTP Study Number: C20515
Lock Date: 01/12/2011
Cage Range: ALL
Date Range: ALL
Reasons For Removal: ALL
Removal Date Range: ALL
Treatment Groups: Include ALL
Study Gender: Both
TDMSE Version: 3.0.2.0_001
PWG Approval Date: 02/21/2013

Note: Animals arranged according to days on test.

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WISTAR HAN RATS MALE	DAY ON TEST																								males (cont...)
	0345	0492	0053	0055	0057	0059	0066	0066	0066	0066	0067	0067	0067	0067	0067	0067	0067	0067	0067	0067	0067	0067	0067	0067	
Control	0000	0000	0000	0000	0000	0000	0000	0000	0000	0000	0000	0000	0000	0000	0000	0000	0000	0000	0000	0000	0000	0000	0000	0000	
	0001	0003	0004	0000	0000	0002	0002	0004	0001	0003	0002	0004	0000	0001	0000	0000	0000	0001	0001	0001	0002	0002	0002	0002	
	0001	0005	0003	0008	0005	0008	0007	0008	0003	0002	0006	0009	0003	0009	0009	0002	0001	0007	0004	0007	0008	0000	0002	0003	

ALIMENTARY SYSTEM

Esophagus	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
Intestine Large, Cecum	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
Intestine Large, Colon	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
Intestine Large, Rectum	+	+	+	+	I	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
Intestine Small, Duodenum	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
Intestine Small, Ileum	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
Intestine Small, Jejunum	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
Liver	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
Mesentery														+	+		+						+
Oral Mucosa		+																					
Pancreas Adenoma	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
Salivary Glands Schwannoma Malignant	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
Stomach, Forestomach Leiomyoma Sarcoma	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
Stomach, Glandular	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+

* .. Total animals with tissue examined microscopically; Total animals with tumor
 + .. Tissue examined microscopically
 X .. Lesion present
 I .. Insufficient tissue

M .. Missing tissue
 A .. Autolysis precludes evaluation
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	0 3 4 5	0 4 9 4	0 5 2 0	0 5 3 5	0 5 9 7	0 5 9 7	0 5 9 9	0 6 0 7	0 6 1 2	0 6 1 9	0 6 2 7	0 6 5 3	0 7 0 4	0 7 0 4	0 7 1 0	0 7 1 5	0 7 1 8	0 7 2 9	0 7 2 9	0 7 2 9	0 7 2 9	0 7 2 9	0 7 2 9	0 7 2 9	
Control	0 0 0 1 1	0 0 0 3 5	0 0 0 4 3	0 0 0 0 8	0 0 0 0 5	0 0 0 2 8	0 0 0 2 7	0 0 0 4 8	0 0 0 1 3	0 0 0 3 2	0 0 0 2 6	0 0 0 4 9	0 0 0 0 3	0 0 0 1 9	0 0 0 0 9	0 0 0 0 2	0 0 0 0 1	0 0 0 0 7	0 0 0 0 4	0 0 0 0 7	0 0 0 0 8	0 0 0 1 0	0 0 0 2 2	0 0 0 2 3	0 0 0 2 4
	ANIMAL ID																								

RESPIRATORY SYSTEM

Larynx	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
Lung	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
Alveolar/Bronchiolar Adenoma										X															
Nose	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
Trachea	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+

SPECIAL SENSES SYSTEM

Eye	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
Harderian Gland	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
Zymbal's Gland			+		+																				
Carcinoma					X																				

URINARY SYSTEM

Kidney	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
Transitional Epithelium, Papilloma																									
Urinary Bladder	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+

SYSTEMIC LESIONS

Multiple Organ	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
Mesothelioma Malignant																									

* .. Total animals with tissue examined microscopically; Total animals with tumor
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	0729	0729	0729	0729	0729	0729	0729	0729	0729	0729	0729	0729	0729	0729	0729	0729	0729	0729	0729	0729	0729	0729	0729	0729		0729																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																		
Control	0025	0030	0034	0042	0045	0046	0050	0054	0060	0064	0066	0068	0072	0075	0076	0077	0078	0079	0080	0081	0082	0083	0084	0085	0086	0087	0088	0089	0090	0091	0092	0093	0094	0095	0096	0097	0098	0099	0100	0101	0102	0103	0104	0105	0106	0107	0108	0109	0110	0111	0112	0113	0114	0115	0116	0117	0118	0119	0120	0121	0122	0123	0124	0125	0126	0127	0128	0129	0130	0131	0132	0133	0134	0135	0136	0137	0138	0139	0140	0141	0142	0143	0144	0145	0146	0147	0148	0149	0150	0151	0152	0153	0154	0155	0156	0157	0158	0159	0160	0161	0162	0163	0164	0165	0166	0167	0168	0169	0170	0171	0172	0173	0174	0175	0176	0177	0178	0179	0180	0181	0182	0183	0184	0185	0186	0187	0188	0189	0190	0191	0192	0193	0194	0195	0196	0197	0198	0199	0200	0201	0202	0203	0204	0205	0206	0207	0208	0209	0210	0211	0212	0213	0214	0215	0216	0217	0218	0219	0220	0221	0222	0223	0224	0225	0226	0227	0228	0229	0230	0231	0232	0233	0234	0235	0236	0237	0238	0239	0240	0241	0242	0243	0244	0245	0246	0247	0248	0249	0250	0251	0252	0253	0254	0255	0256	0257	0258	0259	0260	0261	0262	0263	0264	0265	0266	0267	0268	0269	0270	0271	0272	0273	0274	0275	0276	0277	0278	0279	0280	0281	0282	0283	0284	0285	0286	0287	0288	0289	0290	0291	0292	0293	0294	0295	0296	0297	0298	0299	0300	0301	0302	0303	0304	0305	0306	0307	0308	0309	0310	0311	0312	0313	0314	0315	0316	0317	0318	0319	0320	0321	0322	0323	0324	0325	0326	0327	0328	0329	0330	0331	0332	0333	0334	0335	0336	0337	0338	0339	0340	0341	0342	0343	0344	0345	0346	0347	0348	0349	0350	0351	0352	0353	0354	0355	0356	0357	0358	0359	0360	0361	0362	0363	0364	0365	0366	0367	0368	0369	0370	0371	0372	0373	0374	0375	0376	0377	0378	0379	0380	0381	0382	0383	0384	0385	0386	0387	0388	0389	0390	0391	0392	0393	0394	0395	0396	0397	0398	0399	0400	0401	0402	0403	0404	0405	0406	0407	0408	0409	0410	0411	0412	0413	0414	0415	0416	0417	0418	0419	0420	0421	0422	0423	0424	0425	0426	0427	0428	0429	0430	0431	0432	0433	0434	0435	0436	0437	0438	0439	0440	0441	0442	0443	0444	0445	0446	0447	0448	0449	0450	0451	0452	0453	0454	0455	0456	0457	0458	0459	0460	0461	0462	0463	0464	0465	0466	0467	0468	0469	0470	0471	0472	0473	0474	0475	0476	0477	0478	0479	0480	0481	0482	0483	0484	0485	0486	0487	0488	0489	0490	0491	0492	0493	0494	0495	0496	0497	0498	0499	0500	0501	0502	0503	0504	0505	0506	0507	0508	0509	0510	0511	0512	0513	0514	0515	0516	0517	0518	0519	0520	0521	0522	0523	0524	0525	0526	0527	0528	0529	0530	0531	0532	0533	0534	0535	0536	0537	0538	0539	0540	0541	0542	0543	0544	0545	0546	0547	0548	0549	0550	0551	0552	0553	0554	0555	0556	0557	0558	0559	0560	0561	0562	0563	0564	0565	0566	0567	0568	0569	0570	0571	0572	0573	0574	0575	0576	0577	0578	0579	0580	0581	0582	0583	0584	0585	0586	0587	0588	0589	0590	0591	0592	0593	0594	0595	0596	0597	0598	0599	0600	0601	0602	0603	0604	0605	0606	0607	0608	0609	0610	0611	0612	0613	0614	0615	0616	0617	0618	0619	0620	0621	0622	0623	0624	0625	0626	0627	0628	0629	0630	0631	0632	0633	0634	0635	0636	0637	0638	0639	0640	0641	0642	0643	0644	0645	0646	0647	0648	0649	0650	0651	0652	0653	0654	0655	0656	0657	0658	0659	0660	0661	0662	0663	0664	0665	0666	0667	0668	0669	0670	0671	0672	0673	0674	0675	0676	0677	0678	0679	0680	0681	0682	0683	0684	0685	0686	0687	0688	0689	0690	0691	0692	0693	0694	0695	0696	0697	0698	0699	0700	0701	0702	0703	0704	0705	0706	0707	0708	0709	0710	0711	0712	0713	0714	0715	0716	0717	0718	0719	0720	0721	0722	0723	0724	0725	0726	0727	0728	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	1

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Control	0025	0030	0034	0042	0045	0056	0004	0006	0000	0001	0001	0001	0001	0002	0009	0001	0007	0008	0000	0001	0004	0007	0003	0006	0009	

Peritoneum + 1

GENITAL SYSTEM

Epididymis	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	50
Preputial Gland	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	50
Prostate Adenoma, Multiple	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	50 1
Seminal Vesicle Adenoma	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	50 1
Testes Interstitial Cell, Adenoma	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	50 2

HEMATOPOIETIC SYSTEM

Bone Marrow Hemangiosarcoma	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	50 1
Lymph Node	+								+	+		+					+									12
Lymph Node, Bronchial	M	+	+	+	+	+	+	+	M	M	M	+	+	+	+	+	M	+	M	+	+	+	+	+	+	42
Lymph Node, Mandibular	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	M	+	+	+	+	+	+	46
Lymph Node, Mediastinal	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	M	+	+	+	+	+	+	46
Lymph Node, Mesenteric Hemangiosarcoma	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	50 3

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 First Dose M/F: 04/14/08 / 04/14/08
 Lab: BNW

WISTAR HAN RATS MALE	DAY ON TEST																								* TOTALS		
	0729	0729	0729	0729	0729	0729	0729	0729	0729	0729	0729	0729	0729	0729	0729	0729	0729	0729	0729	0729	0729	0729	0729	0729			
Control	ANIMAL ID																								* TOTALS		
	0025	0030	0034	0042	0045	0046	0050	0054	0060	0064	0066	0070	0072	0075	0076	0077	0078	0079	0080	0081	0084	0087	0093	0096		0099	
Spleen	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	50		
Thymus	I	+	+	+	+	+	+	+	+	M	+	+	+	+	I	+	+	+	M	+	+	+	+	+	40		
Thymoma Benign																							X		1		
INTEGUMENTARY SYSTEM																											
Mammary Gland	M	+	M	M	M	M	M	M	M	M	M	M	+	M	M	M	M	M	M	M	M	M	M	M	6		
Skin	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	50		
Basal Cell Carcinoma																							X		1		
Keratoacanthoma																									1		
Subcutaneous Tissue, Fibroma																						X			1		
Subcutaneous Tissue, Fibrosarcoma																									1		
Subcutaneous Tissue, Lipoma	X																								1		
MUSCULOSKELETAL SYSTEM																											
Bone	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	50		
Osteosarcoma																								X	1		
Skeletal Muscle																								+	1		
NERVOUS SYSTEM																											
Brain	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	50		
Glioma																									2		
Meningioma Malignant																									1		
Peripheral Nerve																									5		
Spinal Cord																									5		

* .. Total animals with tissue examined microscopically; Total animals with tumor
 + .. Tissue examined microscopically
 X .. Lesion present
 I .. Insufficient tissue

M .. Missing tissue
 A .. Autolysis precludes evaluation
 BLANK .. Not examined microscopically

Experiment Number: 20515 - 03
 Test Type: CHRONIC
 Route: RESPIRATORY EXPOSURE WHOLE BODY
 Species/Strain: RATS/Wistar Han

P17: NEOPLASMS BY INDIVIDUAL ANIMAL (SYSTEMIC LESIONS ABRIDGED)
 Metal working fluids (CIMSTAR 3800)
 CAS Number: CIMSTAR3800

Date Report Requested: 02/18/2014
 Time Report Requested: 12:32:34
 First Dose M/F: 04/14/08 / 04/14/08
 Lab: BNW

WISTAR HAN RATS MALE	DAY ON TEST																								males (cont...)
	0 2 8 6	0 4 2 9	0 4 3 9	0 5 0 5	0 5 4 7	0 5 6 2	0 5 6 4	0 6 6 3	0 6 0 0	0 6 2 0	0 6 3 3	0 6 5 7	0 6 7 0	0 7 0 4	0 7 1 4	0 7 2 9	0 7 2 9	0 7 2 9	0 7 2 9	0 7 2 9	0 7 2 9	0 7 2 9	0 7 2 9		
10 mg/m3	ANIMAL ID																								
	0 0 2 0 8	0 0 0 1 9	0 0 2 2 7	0 0 2 4 7	0 0 2 0 3	0 0 2 1 7	0 0 2 1 8	0 0 2 5 4	0 0 2 1 0	0 0 2 5 6	0 0 2 3 8	0 0 2 4 0	0 0 2 2 2	0 0 2 3 3	0 0 2 2 5	0 0 2 2 5	0 0 2 0 5	0 0 2 0 6	0 0 2 1 7	0 0 2 1 0	0 0 2 1 3	0 0 2 1 4	0 0 2 2 3	0 0 2 2 6	

ALIMENTARY SYSTEM

Esophagus	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	
Intestine Large, Cecum	+	A	+	+	A	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	
Intestine Large, Colon	+	+	+	+	A	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	
Intestine Large, Rectum	+	A	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	I	+	+	
Intestine Small, Duodenum	+	A	+	+	A	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	
Intestine Small, Ileum	+	A	+	+	A	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	
Intestine Small, Jejunum	+	A	+	+	A	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	
Liver	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	
Hepatocellular Adenoma																									
Hepatocellular Carcinoma																									
Mesentery						+					+											+		+	+
Pancreas	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	
Salivary Glands	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	
Stomach, Forestomach	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	
Stomach, Glandular	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	
Tooth																								+	

CARDIOVASCULAR SYSTEM

* .. Total animals with tissue examined microscopically; Total animals with tumor
 + .. Tissue examined microscopically
 X .. Lesion present
 I .. Insufficient tissue

M .. Missing tissue
 A .. Autolysis precludes evaluation
 BLANK .. Not examined microscopically

Experiment Number: 20515 - 03
 Test Type: CHRONIC
 Route: RESPIRATORY EXPOSURE WHOLE BODY
 Species/Strain: RATS/Wistar Han

P17: NEOPLASMS BY INDIVIDUAL ANIMAL (SYSTEMIC LESIONS ABRIDGED)
 Metal working fluids (CIMSTAR 3800)
 CAS Number: CIMSTAR3800

Date Report Requested: 02/18/2014
 Time Report Requested: 12:32:34
 First Dose M/F: 04/14/08 / 04/14/08
 Lab: BNW

WISTAR HAN RATS MALE 10 mg/m3	DAY ON TEST																								males (cont...)
	0286	0499	0499	0505	0505	0505	0505	0606	0606	0606	0606	0606	0606	0707	0707	0707	0707	0707	0707	0707	0707	0707	0707		
ANIMAL ID	0020	0020	0020	0020	0020	0020	0020	0020	0020	0020	0020	0020	0020	0020	0020	0020	0020	0020	0020	0020	0020	0020	0020		
Preputial Gland	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+		
Prostate Adenoma	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+		
Seminal Vesicle	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+		
Testes Interstitial Cell, Adenoma	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	X	+		
HEMATOPOIETIC SYSTEM																									
Bone Marrow	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+		
Lymph Node					+					+															
Lymph Node, Bronchial	+	+	+	+	+	+	+	+	+	+	+	+	+	M	+	+	+	+	M	+	+	+	+		
Lymph Node, Mandibular Carcinoma, Metastatic, Zymbal'S Gland	+	+	+	+	+	+	M	+	+	+	+	+	X	+	+	+	+	+	+	+	+	+	+		
Lymph Node, Mediastinal	+	+	M	M	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+		
Lymph Node, Mesenteric Hemangiosarcoma	+	+	+	+	+	+	+	+	+	+	+	+	+	X	+	+	+	+	+	+	+	+	+		
Spleen	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+		
Thymus	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	M		
INTEGUMENTARY SYSTEM																									

* .. Total animals with tissue examined microscopically; Total animals with tumor
 + .. Tissue examined microscopically
 X .. Lesion present
 I .. Insufficient tissue

M .. Missing tissue
 A .. Autolysis precludes evaluation
 BLANK .. Not examined microscopically

Experiment Number: 20515 - 03
 Test Type: CHRONIC
 Route: RESPIRATORY EXPOSURE WHOLE BODY
 Species/Strain: RATS/Wistar Han

P17: NEOPLASMS BY INDIVIDUAL ANIMAL (SYSTEMIC LESIONS ABRIDGED)
 Metal working fluids (CIMSTAR 3800)
 CAS Number: CIMSTAR3800

Date Report Requested: 02/18/2014
 Time Report Requested: 12:32:34
 First Dose M/F: 04/14/08 / 04/14/08
 Lab: BNW

		DAY ON TEST																								males (cont...)
		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
WISTAR HAN RATS MALE		2	4	4	5	5	5	5	6	6	6	6	6	6	7	7	7	7	7	7	7	7	7	7	7	7
	10 mg/m3	8	2	3	0	4	6	6	0	2	3	3	5	7	0	0	1	2	2	2	2	2	2	2	2	2
		6	9	9	5	7	2	4	3	0	3	7	3	7	4	4	7	9	9	9	9	9	9	9	9	9
		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
	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
		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
		0	1	2	4	0	1	1	2	5	1	3	4	2	3	3	2	0	0	0	1	1	1	1	2	2
		8	9	7	7	3	7	8	4	0	6	8	0	2	3	5	5	5	6	7	0	2	3	4	3	6

Osteosarcoma, Metastatic, Bone
 Osteosarcoma, Metastatic, Uncertain Primary Site

X

X

Nose

+ +

Trachea

+ + + + A +

SPECIAL SENSES SYSTEM

Eye

+ +

Harderian Gland

+ +

Zymbal's Gland
 Carcinoma

+

+

X

X

URINARY SYSTEM

Kidney
 Renal Tubule, Adenoma

+
 X

Urinary Bladder

+ +

SYSTEMIC LESIONS

Multiple Organ
 Lymphoma Malignant
 Mesothelioma Malignant

+
 X X X

* .. Total animals with tissue examined microscopically; Total animals with tumor
 + .. Tissue examined microscopically
 X .. Lesion present
 I .. Insufficient tissue

M .. Missing tissue
 A .. Autolysis precludes evaluation
 BLANK .. Not examined microscopically

Experiment Number: 20515 - 03
 Test Type: CHRONIC
 Route: RESPIRATORY EXPOSURE WHOLE BODY
 Species/Strain: RATS/Wistar Han

P17: NEOPLASMS BY INDIVIDUAL ANIMAL (SYSTEMIC LESIONS ABRIDGED)
 Metal working fluids (CIMSTAR 3800)
 CAS Number: CIMSTAR3800

Date Report Requested: 02/18/2014
 Time Report Requested: 12:32:34
 First Dose M/F: 04/14/08 / 04/14/08
 Lab: BNW

| WISTAR HAN RATS MALE
10 mg/m3 | DAY ON TEST | | | | | | | | | | | | | | | | | | | | | | | | * TOTALS |
|----------------------------------|-------------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|----------|
| | 0729 | 0729 | 0729 | 0730 | 0730 | 0730 | 0730 | 0730 | 0730 | 0730 | 0730 | 0730 | 0730 | 0730 | 0730 | 0730 | 0730 | 0730 | 0730 | 0730 | 0730 | 0730 | 0730 | 0730 | |
| ANIMAL ID | 0039 | 0039 | 0039 | 0041 | 0042 | 0044 | 0049 | 0051 | 0055 | 0060 | 0061 | 0068 | 0069 | 0071 | 0072 | 0074 | 0076 | 0077 | 0078 | 0080 | 0082 | 0084 | 0088 | 0090 | |
| Blood Vessel | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 |
| Heart | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 |

ENDOCRINE SYSTEM

| | | | | | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|----------|
| Adrenal Cortex
Carcinoma | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50
1 |
| Adrenal Medulla
Pheochromocytoma Malignant | + | + | + | + | + | + | + | + | + | + | + | + | + | + | M | + | + | + | + | + | + | + | + | 48
1 |
| Islets, Pancreatic | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 |
| Parathyroid Gland
Adenoma | M | + | + | + | + | + | M | + | + | + | + | M | + | + | + | + | M | + | + | + | + | + | + | 43
1 |
| Pituitary Gland
Pars Distalis, Adenoma | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50
18 |
| Pars Intermedia, Adenoma | X | X | | | X | X | | | X | X | | X | | | | | X | X | | | | | | 1 |
| Thyroid Gland
C-cell, Adenoma | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50
5 |
| Follicular Cell, Carcinoma | | | | | | | | | | | | | X | | | | | X | | | | | | 1 |

GENERAL BODY SYSTEM

NONE

GENITAL SYSTEM

| | | | | | | | | | | | | | | | | | | | | | | | | |
|------------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|----|
| Epididymis | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 |
|------------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|----|

* .. Total animals with tissue examined microscopically; Total animals with tumor
 + .. Tissue examined microscopically
 X .. Lesion present
 I .. Insufficient tissue

M .. Missing tissue
 A .. Autolysis precludes evaluation
 BLANK .. Not examined microscopically

Experiment Number: 20515 - 03
 Test Type: CHRONIC
 Route: RESPIRATORY EXPOSURE WHOLE BODY
 Species/Strain: RATS/Wistar Han

P17: NEOPLASMS BY INDIVIDUAL ANIMAL (SYSTEMIC LESIONS ABRIDGED)
 Metal working fluids (CIMSTAR 3800)
 CAS Number: CIMSTAR3800

Date Report Requested: 02/18/2014
 Time Report Requested: 12:32:34
 First Dose M/F: 04/14/08 / 04/14/08
 Lab: BNW

| WISTAR HAN RATS MALE
10 mg/m3 | DAY ON TEST | | | | | | | | | | | | | | | | | | | | | | | | * TOTALS |
|--|-------------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|---------|----------|
| | 0729 | 0729 | 0729 | 0730 | 0730 | 0730 | 0730 | 0730 | 0730 | 0730 | 0730 | 0730 | 0730 | 0730 | 0730 | 0730 | 0730 | 0730 | 0730 | 0730 | 0730 | 0730 | 0730 | 0730 | |
| ANIMAL ID | 0039 | 0039 | 0039 | 0041 | 0042 | 0044 | 0049 | 0051 | 0055 | 0060 | 0061 | 0068 | 0069 | 0071 | 0072 | 0074 | 0076 | 0077 | 0081 | 0082 | 0084 | 0085 | 0088 | 0090 | |
| Preputial Gland | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 | |
| Prostate Adenoma | + | + | + | + | + | + | + | + | X | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50
1 | |
| Seminal Vesicle | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 | |
| Testes Interstitial Cell, Adenoma | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50
1 | |
| HEMATOPOIETIC SYSTEM | | | | | | | | | | | | | | | | | | | | | | | | | |
| Bone Marrow | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 | |
| Lymph Node | | + | | | | | | | | | | + | + | | | | | | | | | | | 5 | |
| Lymph Node, Bronchial | + | + | + | + | + | + | + | + | + | + | M | M | + | + | + | M | M | M | M | M | M | + | + | 40 | |
| Lymph Node, Mandibular Carcinoma, Metastatic, Zymbal'S Gland | + | + | + | + | + | + | M | + | + | M | + | + | + | + | + | + | + | + | + | + | + | + | M | 46
1 | |
| Lymph Node, Mediastinal | + | M | + | + | + | + | + | + | + | + | M | + | + | + | + | + | + | M | + | + | + | + | + | 45 | |
| Lymph Node, Mesenteric Hemangiosarcoma | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50
1 | |
| Spleen | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 | |
| Thymus | + | + | + | + | + | + | I | + | M | + | + | M | I | + | I | + | M | + | + | + | + | + | + | 43 | |
| INTEGUMENTARY SYSTEM | | | | | | | | | | | | | | | | | | | | | | | | | |

* .. Total animals with tissue examined microscopically; Total animals with tumor
 + .. Tissue examined microscopically
 X .. Lesion present
 I .. Insufficient tissue

M .. Missing tissue
 A .. Autolysis precludes evaluation
 BLANK .. Not examined microscopically

Experiment Number: 20515 - 03
 Test Type: CHRONIC
 Route: RESPIRATORY EXPOSURE WHOLE BODY
 Species/Strain: RATS/Wistar Han

P17: NEOPLASMS BY INDIVIDUAL ANIMAL (SYSTEMIC LESIONS ABRIDGED)
 Metal working fluids (CIMSTAR 3800)
 CAS Number: CIMSTAR3800

Date Report Requested: 02/18/2014
 Time Report Requested: 12:32:34
 First Dose M/F: 04/14/08 / 04/14/08
 Lab: BNW

| WISTAR HAN RATS MALE
10 mg/m3 | DAY ON TEST | | | | | | | | | | | | | | | | | | | | | | | | * TOTALS | | |
|---|-------------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|----------|----|--|
| | 0729 | 0729 | 0729 | 0730 | 0730 | 0730 | 0730 | 0730 | 0730 | 0730 | 0730 | 0730 | 0730 | 0730 | 0730 | 0730 | 0730 | 0730 | 0730 | 0730 | 0730 | 0730 | 0730 | 0730 | | | |
| ANIMAL ID | 0039 | 0039 | 0039 | 0001 | 0002 | 0004 | 0009 | 0011 | 0015 | 0000 | 0001 | 0008 | 0009 | 0011 | 0012 | 0014 | 0016 | 0017 | 0018 | 0021 | 0025 | 0026 | 0028 | 0004 | | | |
| Mammary Gland | M | M | M | M | + | + | M | M | M | M | M | M | M | M | M | M | M | M | M | M | M | + | M | M | M | 6 | |
| Skin | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 | |
| Sebaceous Gland, Adenoma | | | | | | | | X | | | | | | | | | | | | | | | | | 1 | | |
| Subcutaneous Tissue, Fibroma | | | | | | | | | | | | | | | | | | | | | | | X | | 2 | | |
| Subcutaneous Tissue, Neural Crest Tumor | | | | | | | | | | | | X | | | | | | | | | | | | | 1 | | |
| Subcutaneous Tissue, Schwannoma Malignant | | | | | | | | | | | | | | | | | | | | | | | | | 2 | | |
| MUSCULOSKELETAL SYSTEM | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Bone | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 | |
| Osteosarcoma | | | | | | | | | | | | | | | | | | | | | | | | | | 1 | |
| Skeletal Muscle | | | | | | | | | | | | | | | | | | | | | | | | | | 2 | |
| Sarcoma | | | | | | | | | | | | | | | | | | | | | | | | | | 1 | |
| NERVOUS SYSTEM | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Brain | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 | |
| Carcinoma, Metastatic, Zymbal'S Gland | | | | | | | | | | | | | | | | | | | | | | | | | | 1 | |
| Glioma | | | | | | | | | | | | | | | | | | | | | | | | | | 1 | |
| Granular Cell Tumor Benign | | | | | | X | | | | | | | | | | | | | | | | | | | 2 | | |
| Granular Cell Tumor Malignant | | | | | | | | | | | | | | | | | | | | | | | | X | 1 | | |
| Peripheral Nerve | | | | | | | | | | | | | | | | | | | | | | | | | | 4 | |
| Spinal Cord | | | | | | | | | | | | | | | | | | | | | | | | | | 4 | |
| RESPIRATORY SYSTEM | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Larynx | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 | |
| Lung | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 | |

* .. Total animals with tissue examined microscopically; Total animals with tumor
 + .. Tissue examined microscopically
 X .. Lesion present
 I .. Insufficient tissue

M .. Missing tissue
 A .. Autolysis precludes evaluation
 BLANK .. Not examined microscopically

Experiment Number: 20515 - 03
 Test Type: CHRONIC
 Route: RESPIRATORY EXPOSURE WHOLE BODY
 Species/Strain: RATS/Wistar Han

P17: NEOPLASMS BY INDIVIDUAL ANIMAL (SYSTEMIC LESIONS ABRIDGED)
 Metal working fluids (CIMSTAR 3800)
 CAS Number: CIMSTAR3800

Date Report Requested: 02/18/2014
 Time Report Requested: 12:32:34
 First Dose M/F: 04/14/08 / 04/14/08
 Lab: BNW

| | | DAY ON TEST | | | | | | | | | | | | | | | | | | | | | | | | males
(cont...) |
|-----------------------------------|--|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|--------------------|
| WISTAR HAN RATS MALE | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| 30 mg/m3 | | 3 | 5 | 5 | 6 | 6 | 6 | 6 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | | |
| | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| | | 9 | 4 | 4 | 0 | 9 | 6 | 3 | 4 | 0 | 4 | 4 | 4 | 1 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | | |
| | | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | | |
| | | 4 | 0 | 1 | 2 | 4 | 4 | 0 | 4 | 3 | 0 | 0 | 1 | 0 | 2 | 5 | 1 | 0 | 0 | 1 | 1 | 2 | 2 | 2 | | |
| | | 4 | 6 | 5 | 2 | 2 | 8 | 8 | 9 | 7 | 7 | 9 | 0 | 5 | 1 | 0 | 2 | 3 | 1 | 3 | 0 | 3 | 5 | 6 | 8 | |
| | | ANIMAL ID | | | | | | | | | | | | | | | | | | | | | | | | |
| Alveolar/Bronchiolar Adenoma | | | | | | | | | | | | | | | | | | | | | | | | | | X |
| Nose | | + | | | | | | | | | | | | | | | | | | | | | | | | |
| Trachea | | + | | | | | | | | | | | | | | | | | | | | | | | | |
| SPECIAL SENSES SYSTEM | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Ear | | | | | | | | | | | | | | | | | | | | | | | | | | + |
| Eye | | A + + + + + + + A + + + + + + + + + + + + + + + + | | | | | | | | | | | | | | | | | | | | | | | | |
| Harderian Gland Adenoma | | + | | | | | | | | | | | | | | | | | | | | | | | | |
| Zymbal's Gland | | | | | | | | | | | | | | | | | | | | | | | | | | + |
| URINARY SYSTEM | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Kidney | | A + | | | | | | | | | | | | | | | | | | | | | | | | |
| Urinary Bladder | | A + + + + + + + A + + + + + + + + + + + + + + + + + + | | | | | | | | | | | | | | | | | | | | | | | | |
| SYSTEMIC LESIONS | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Multiple Organ Lymphoma Malignant | | + | | | | | | | | | | | | | | | | | | | | | | | | |
| Mesothelioma Malignant | | X | | | | | | | | | | | | | | | | | | | | | | | | |

* .. Total animals with tissue examined microscopically; Total animals with tumor
 + .. Tissue examined microscopically
 X .. Lesion present
 I .. Insufficient tissue

M .. Missing tissue
 A .. Autolysis precludes evaluation
 BLANK .. Not examined microscopically

Experiment Number: 20515 - 03
 Test Type: CHRONIC
 Route: RESPIRATORY EXPOSURE WHOLE BODY
 Species/Strain: RATS/Wistar Han

P17: NEOPLASMS BY INDIVIDUAL ANIMAL (SYSTEMIC LESIONS ABRIDGED)
 Metal working fluids (CIMSTAR 3800)
 CAS Number: CIMSTAR3800

Date Report Requested: 02/18/2014
 Time Report Requested: 12:32:34
 First Dose M/F: 04/14/08 / 04/14/08
 Lab: BNW

| WISTAR HAN RATS MALE
30 mg/m3 | DAY ON TEST | | | | | | | | | | | | | | | | | | | | | | | | * TOTALS |
|--|-------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|----------|
| | 0729 | 0729 | 0729 | 0729 | 0729 | 0729 | 0729 | 0729 | 0729 | 0729 | 0729 | 0729 | 0729 | 0729 | 0729 | 0729 | 0729 | 0729 | 0729 | 0729 | 0729 | 0729 | 0729 | 0729 | |
| ANIMAL ID | 00429 | 00431 | 00434 | 00435 | 00438 | 00440 | 00445 | 00446 | 00447 | 00449 | 00456 | 00457 | 00464 | 00467 | 00468 | 00470 | 00471 | 00472 | 00473 | 00474 | 00475 | 00476 | 00477 | 00478 | |
| Heart Schwannoma Benign | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | X | + | 50
2 |
| ENDOCRINE SYSTEM | | | | | | | | | | | | | | | | | | | | | | | | | |
| Adrenal Cortex Adenoma | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | X | 49
2 |
| Adrenal Cortex Carcinoma | | | | | | | | | | | | | | | | | | | | | | | | X | 1 |
| Adrenal Medulla Pheochromocytoma Benign | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | X | 49
1 |
| Islets, Pancreatic Adenoma | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 2 |
| Islets, Pancreatic Carcinoma | | X | | | | | | | | | | | | | | | | | | | | | | | 1 |
| Parathyroid Gland | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | M | + | + | + | + | + | M | M | + | 44 |
| Pituitary Gland Pars Distalis, Adenoma | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | X | 50
11 |
| Pituitary Gland Pars Distalis, Carcinoma | | | X | | X | | | | | | | | X | | X | | | | | | | | | X | 1 |
| Pituitary Gland Pars Intermedia, Adenoma | | | | X | | | | | | | | | | | | | | | | | | | | | 2 |
| Thyroid Gland C-cell, Adenoma | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | X | 49
3 |
| Thyroid Gland C-cell, Carcinoma | | | | | | | | | | | | | | | | | | | | | | | | X | 1 |
| Thyroid Gland Follicular Cell, Carcinoma | | | | | | | | | | | | | | | | | | | | | | | | X | 1 |

GENERAL BODY SYSTEM

NONE

* .. Total animals with tissue examined microscopically; Total animals with tumor
 + .. Tissue examined microscopically
 X .. Lesion present
 I .. Insufficient tissue

M .. Missing tissue
 A .. Autolysis precludes evaluation
 BLANK .. Not examined microscopically

Experiment Number: 20515 - 03
 Test Type: CHRONIC
 Route: RESPIRATORY EXPOSURE WHOLE BODY
 Species/Strain: RATS/Wistar Han

P17: NEOPLASMS BY INDIVIDUAL ANIMAL (SYSTEMIC LESIONS ABRIDGED)
 Metal working fluids (CIMSTAR 3800)
 CAS Number: CIMSTAR3800

Date Report Requested: 02/18/2014
 Time Report Requested: 12:32:34
 First Dose M/F: 04/14/08 / 04/14/08
 Lab: BNW

| WISTAR HAN RATS MALE
30 mg/m3 | DAY ON TEST | | | | | | | | | | | | | | | | | | | | | | | | * TOTALS |
|----------------------------------|-------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|----------|
| | 0729 | 0729 | 0729 | 0729 | 0729 | 0729 | 0729 | 0729 | 0729 | 0729 | 0729 | 0729 | 0729 | 0729 | 0729 | 0729 | 0729 | 0729 | 0729 | 0729 | 0729 | 0729 | 0729 | 0729 | |
| ANIMAL ID | 00429 | 00433 | 00433 | 00433 | 00433 | 00444 | 00444 | 00444 | 00444 | 00444 | 00444 | 00444 | 00444 | 00444 | 00444 | 00444 | 00444 | 00444 | 00444 | 00444 | 00444 | 00444 | 00444 | 00444 | |
| Thymoma Benign | | | | | | X | | | | | | | | | | | | | | | | | | | 2 |
| INTEGUMENTARY SYSTEM | | | | | | | | | | | | | | | | | | | | | | | | | |
| Mammary Gland | M | M | M | M | M | M | M | M | M | M | M | M | M | M | M | M | M | M | M | M | M | M | M | M | 3 |
| Skin | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 |
| Basal Cell Carcinoma | | | | | | | | | | | | | | X | | | | | | | | | | | 1 |
| Squamous Cell Papilloma | | | | | | | | | | | | | | | | | | | | | | | | | 1 |
| Subcutaneous Tissue, Fibroma | | | | | | | | | | | | | | | | | | | | | | | | | 1 |
| MUSCULOSKELETAL SYSTEM | | | | | | | | | | | | | | | | | | | | | | | | | |
| Bone | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 |
| Skeletal Muscle | | | | | | | | | | | | | | | | | | | | | | | | | 1 |
| Sarcoma | | | | | | | | | | | | | | | | | | | | | | | | | 1 |
| NERVOUS SYSTEM | | | | | | | | | | | | | | | | | | | | | | | | | |
| Brain | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 |
| Glioma | | | | | | | | | | | | | | | | | | | | | | | | | 1 |
| Granular Cell Tumor Malignant | | | | | | | | | | | | | | | | | | | | | | | | | 1 |
| Peripheral Nerve | | | | | | | | | | | | | | | | | | | | | | | | | 6 |
| Spinal Cord | | | | | | | | | | | | | | | | | | | | | | | | | 7 |
| RESPIRATORY SYSTEM | | | | | | | | | | | | | | | | | | | | | | | | | |
| Larynx | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 |
| Lung | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 |

* .. Total animals with tissue examined microscopically; Total animals with tumor
 + .. Tissue examined microscopically
 X .. Lesion present
 I .. Insufficient tissue

M .. Missing tissue
 A .. Autolysis precludes evaluation
 BLANK .. Not examined microscopically

Experiment Number: 20515 - 03
 Test Type: CHRONIC
 Route: RESPIRATORY EXPOSURE WHOLE BODY
 Species/Strain: RATS/Wistar Han

P17: NEOPLASMS BY INDIVIDUAL ANIMAL (SYSTEMIC LESIONS ABRIDGED)
 Metal working fluids (CIMSTAR 3800)
 CAS Number: CIMSTAR3800

Date Report Requested: 02/18/2014
 Time Report Requested: 12:32:34
 First Dose M/F: 04/14/08 / 04/14/08
 Lab: BNW

| WISTAR HAN RATS MALE
30 mg/m3 | DAY ON TEST | | | | | | | | | | | | | | | | | | | | | | | | * TOTALS |
|-----------------------------------|-------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|---------|----------|
| | 0729 | 0729 | 0729 | 0729 | 0729 | 0729 | 0729 | 0729 | 0729 | 0729 | 0729 | 0729 | 0729 | 0729 | 0729 | 0729 | 0729 | 0729 | 0729 | 0729 | 0729 | 0729 | 0729 | 0729 | |
| ANIMAL ID | 00429 | 00433 | 00433 | 00433 | 00434 | 00444 | 00444 | 00444 | 00444 | 00441 | 00441 | 00441 | 00441 | 00441 | 00442 | 00443 | 00443 | 00443 | 00443 | 00443 | 00444 | 00444 | 00444 | 00443 | |
| Alveolar/Bronchiolar Adenoma | | | | | | | | | | | | | | | | | | | | | | | | 1 | |
| Nose | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 | |
| Trachea | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 | |
| SPECIAL SENSES SYSTEM | | | | | | | | | | | | | | | | | | | | | | | | | |
| Ear | | | | | | | | | | | | | | | | | | | | | | | | 1 | |
| Eye | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 48 | |
| Harderian Gland Adenoma | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | X | + | 50
1 | |
| Zymbal's Gland | | | | | | | | | | | | | | | | | | | | | | | | 1 | |
| URINARY SYSTEM | | | | | | | | | | | | | | | | | | | | | | | | | |
| Kidney | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 49 | |
| Urinary Bladder | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 48 | |
| SYSTEMIC LESIONS | | | | | | | | | | | | | | | | | | | | | | | | | |
| Multiple Organ Lymphoma Malignant | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 | |
| Mesothelioma Malignant | | | | | | | | | | | | | | | | | | | | | | X | | 1 | |

* .. Total animals with tissue examined microscopically; Total animals with tumor
 + .. Tissue examined microscopically
 X .. Lesion present
 I .. Insufficient tissue

M .. Missing tissue
 A .. Autolysis precludes evaluation
 BLANK .. Not examined microscopically

Experiment Number: 20515 - 03
 Test Type: CHRONIC
 Route: RESPIRATORY EXPOSURE WHOLE BODY
 Species/Strain: RATS/Wistar Han

P17: NEOPLASMS BY INDIVIDUAL ANIMAL (SYSTEMIC LESIONS ABRIDGED)
 Metal working fluids (CIMSTAR 3800)
 CAS Number: CIMSTAR3800

Date Report Requested: 02/18/2014
 Time Report Requested: 12:32:34
 First Dose M/F: 04/14/08 / 04/14/08
 Lab: BNW

| WISTAR HAN RATS MALE | DAY ON TEST | | | | | | | | | | | | | | | | | | | | | | | | males
(cont...) |
|----------------------|-------------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------------------|
| | 0
2 | 0
3 | 0
4 | 0
4 | 0
5 | 0
5 | 0
6 | 0
6 | 0
6 | 0
6 | 0
6 | 0
6 | 0
7 | 0
7 | 0
7 | 0
7 | 0
7 | 0
7 | 0
7 | 0
7 | 0
7 | 0
7 | 0
7 | 0
7 | |
| 100 mg/m3 | 0
2 | 0
3 | 0
4 | 0
4 | 0
5 | 0
5 | 0
6 | 0
6 | 0
6 | 0
6 | 0
6 | 0
6 | 0
7 | 0
7 | 0
7 | 0
7 | 0
7 | 0
7 | 0
7 | 0
7 | 0
7 | 0
7 | 0
7 | 0
7 | |
| | 0
6 | 0
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6 | 0
6 | 0
6 | 0
6 | 0
6 | 0
6 | 0
6 | 0
6 | 0
6 | 0
6 | |
| | 1
3 | 3
3 | 1
3 | 0
4 | 0
4 | 0
3 | 0
7 | 2
4 | 4
0 | 1
3 | 1
7 | 2
2 | 0
1 | 0
2 | 0
3 | 0
1 | 0
1 | 0
1 | 0
1 | 0
1 | 0
1 | 0
1 | 0
1 | 0
1 | |

ALIMENTARY SYSTEM

| | | | | | | | | | | | | | | | | | | | | | | | |
|---------------------------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Esophagus | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| Intestine Large, Cecum | + | + | + | + | A | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| Intestine Large, Colon | + | + | + | + | A | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| Intestine Large, Rectum | + | + | + | + | A | + | + | + | + | + | + | + | + | + | + | + | + | + | I | + | + | + | + |
| Intestine Small, Duodenum | + | + | + | + | A | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| Intestine Small, Ileum | + | + | + | + | A | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| Intestine Small, Jejunum | + | + | + | + | A | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| Liver | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| Mesentery | | | | | | | | | | | | | | | | | | | | | | | |
| Liposarcoma | | | | | | | + | | | | | | | | | | | | | | | | |
| Pancreas | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| Carcinoma | | | | | | | | | | | | | | | | | | | | | | | |
| Salivary Glands | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| Sarcoma | | | | | | | | | | | | | | | | | | | | | | | |
| Stomach, Forestomach | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| Stomach, Glandular | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| Tooth | | | | | | | | | | | | | | | | | | | | | | | |

* .. Total animals with tissue examined microscopically; Total animals with tumor
 + .. Tissue examined microscopically
 X .. Lesion present
 I .. Insufficient tissue

M .. Missing tissue
 A .. Autolysis precludes evaluation
 BLANK .. Not examined microscopically

Experiment Number: 20515 - 03
 Test Type: CHRONIC
 Route: RESPIRATORY EXPOSURE WHOLE BODY
 Species/Strain: RATS/Wistar Han

P17: NEOPLASMS BY INDIVIDUAL ANIMAL (SYSTEMIC LESIONS ABRIDGED)
 Metal working fluids (CIMSTAR 3800)
 CAS Number: CIMSTAR3800

Date Report Requested: 02/18/2014
 Time Report Requested: 12:32:34
 First Dose M/F: 04/14/08 / 04/14/08
 Lab: BNW

| WISTAR HAN RATS MALE | DAY ON TEST | | | | | | | | | | | | | | | | | | | | | | | | males
(cont...) |
|----------------------|-------------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------------------|
| | 0
2 | 0
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7 | 0
7 | 0
7 | 0
7 | |
| 100 mg/m3 | 0
2 | 0
3 | 0
4 | 0
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5 | 0
5 | 0
6 | 0
6 | 0
6 | 0
6 | 0
6 | 0
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6 | 0
6 | 0
6 | 0
6 | 0
6 | 0
6 | 0
6 | 0
6 | 0
6 | |
| | 1
2 | 3
6 | 3
8 | 1
4 | 0
4 | 0
3 | 2
7 | 4
4 | 4
0 | 1
3 | 1
7 | 2
2 | 0
1 | 0
2 | 2
3 | 2
1 | 1
1 | 1
0 | 2
8 | 2
0 | 2
6 | 2
9 | 3
0 | 3
2 | |

CARDIOVASCULAR SYSTEM

| | | | | | | | | | | | | | | | | | | | | | | | | |
|--------------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Blood Vessel | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| Heart | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |

ENDOCRINE SYSTEM

| | | | | | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Adrenal Cortex
Adenoma
Carcinoma | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| Adrenal Medulla
Pheochromocytoma Benign | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | X | + | + | + | + | + | + | + |
| Islets, Pancreatic
Adenoma | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| Parathyroid Gland
Adenoma | + | + | + | + | + | + | + | + | + | + | + | + | + | + | M | + | + | + | + | + | + | + | + | + |
| Pituitary Gland
Sarcoma, Metastatic, Salivary Glands
Pars Distalis, Adenoma | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| | | | | | | | X | | | X | | | X | X | X | X | X | X | X | X | | | X | X |
| Thyroid Gland
C-cell, Adenoma
C-cell, Carcinoma
Follicular Cell, Carcinoma | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | X | + | + | + | + | + | + | + |
| | | | | | | | | | | | | | | | | | | | | | | | X | X |

GENERAL BODY SYSTEM

* .. Total animals with tissue examined microscopically; Total animals with tumor
 + .. Tissue examined microscopically
 X .. Lesion present
 I .. Insufficient tissue

M .. Missing tissue
 A .. Autolysis precludes evaluation
 BLANK .. Not examined microscopically

Experiment Number: 20515 - 03
 Test Type: CHRONIC
 Route: RESPIRATORY EXPOSURE WHOLE BODY
 Species/Strain: RATS/Wistar Han

P17: NEOPLASMS BY INDIVIDUAL ANIMAL (SYSTEMIC LESIONS ABRIDGED)
 Metal working fluids (CIMSTAR 3800)
 CAS Number: CIMSTAR3800

Date Report Requested: 02/18/2014
 Time Report Requested: 12:32:34
 First Dose M/F: 04/14/08 / 04/14/08
 Lab: BNW

| WISTAR HAN RATS MALE | DAY ON TEST | | | | | | | | | | | | | | | | | | | | | | | | males
(cont...) |
|----------------------|-------------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------------------|
| | 0
2 | 0
3 | 0
4 | 0
4 | 0
5 | 0
5 | 0
6 | 0
6 | 0
6 | 0
6 | 0
6 | 0
6 | 0
7 | 0
7 | 0
7 | 0
7 | 0
7 | 0
7 | 0
7 | 0
7 | 0
7 | 0
7 | 0
7 | 0
7 | |
| 100 mg/m3 | 0
2 | 0
3 | 0
4 | 0
4 | 0
5 | 0
5 | 0
6 | 0
6 | 0
6 | 0
6 | 0
6 | 0
6 | 0
7 | 0
7 | 0
7 | 0
7 | 0
7 | 0
7 | 0
7 | 0
7 | 0
7 | 0
7 | 0
7 | 0
7 | |
| | 0
6 | 0
6 | 0
6 | 0
6 | 0
6 | 0
6 | 0
6 | 0
6 | 0
6 | 0
6 | 0
6 | 0
6 | 0
6 | 0
6 | 0
6 | 0
6 | 0
6 | 0
6 | 0
6 | 0
6 | 0
6 | 0
6 | 0
6 | 0
6 | |
| | 1
3 | 3
3 | 1
3 | 0
4 | 0
4 | 0
3 | 2
7 | 4
4 | 4
0 | 1
3 | 1
7 | 2
2 | 0
1 | 0
2 | 2
3 | 2
1 | 1
1 | 1
0 | 2
8 | 2
0 | 2
6 | 2
9 | 3
0 | 3
2 | |

NONE

GENITAL SYSTEM

| | | | | | | | | | | | | | | | | | | | | | | | | |
|-----------------------------------|---|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|
| Coagulating Gland | + | | | | | | | | | | | | | | | | | | | | | | | |
| Epididymis | + | | | | | | | | | | | | | | | | | | | | | | | |
| Preputial Gland | + | | | | | | | | | | | | | | | | | | | | | | | |
| Prostate Adenoma | + | | | | | | | | | | | | | | | | | | | | | | | |
| Prostate Adenoma, Multiple | X | | | | | | | | | | | | | | | | | | | | | | | |
| Seminal Vesicle | + | | | | | | | | | | | | | | | | | | | | | | | |
| Testes Interstitial Cell, Adenoma | + | | | | | | | | | | | | | | | | | | | | | | | |

HEMATOPOIETIC SYSTEM

| | | | | | | | | | | | | | | | | | | | | | | | | |
|-------------------------|---|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|
| Bone Marrow | + | | | | | | | | | | | | | | | | | | | | | | | |
| Lymph Node | + | | | | | | | | | | | | | | | | | | | | | | | |
| Lymph Node, Bronchial | + | | | | | | | | | | | | | | | | | | | | | | | |
| Lymph Node, Mandibular | + | | | | | | | | | | | | | | | | | | | | | | | |
| Lymph Node, Mediastinal | + | | | | | | | | | | | | | | | | | | | | | | | |
| Lymph Node, Mesenteric | + | | | | | | | | | | | | | | | | | | | | | | | |

* .. Total animals with tissue examined microscopically; Total animals with tumor
 + .. Tissue examined microscopically
 X .. Lesion present
 I .. Insufficient tissue

M .. Missing tissue
 A .. Autolysis precludes evaluation
 BLANK .. Not examined microscopically

Experiment Number: 20515 - 03
 Test Type: CHRONIC
 Route: RESPIRATORY EXPOSURE WHOLE BODY
 Species/Strain: RATS/Wistar Han

P17: NEOPLASMS BY INDIVIDUAL ANIMAL (SYSTEMIC LESIONS ABRIDGED)
 Metal working fluids (CIMSTAR 3800)
 CAS Number: CIMSTAR3800

Date Report Requested: 02/18/2014
 Time Report Requested: 12:32:34
 First Dose M/F: 04/14/08 / 04/14/08
 Lab: BNW

| WISTAR HAN RATS MALE

100 mg/m3 | DAY ON TEST | | | | | | | | | | | | | | | | | | | | | | | | ANIMAL ID | males
(cont...) | |
|---------------------------------------|-------------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|-----------|----------------------------|--------|
| | 0
2 | 0
3 | 0
4 | 0
4 | 0
5 | 0
5 | 0
6 | 0
6 | 0
6 | 0
6 | 0
6 | 0
6 | 0
7 | 0
7 | 0
7 | 0
7 | 0
7 | 0
7 | 0
7 | 0
7 | 0
7 | 0
7 | 0
7 | 0
7 | | | 0
7 |
| | 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 | 000000000000000000000000 | |
| | 2 | 3 | 4 | 4 | 5 | 5 | 6 | 6 | 6 | 6 | 6 | 6 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 666666666666666666666666 | |
| | 0 | 9 | 5 | 7 | 0 | 9 | 1 | 2 | 3 | 4 | 7 | 9 | 0 | 0 | 0 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 666666666666666666666666 | |
| | 2 | 5 | 7 | 8 | 4 | 5 | 1 | 7 | 5 | 6 | 5 | 5 | 4 | 4 | 4 | 2 | 5 | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 222222222222222222222222 | |
| | 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 | 000000000000000000000000 | |
| | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 666666666666666666666666 | |
| | 1 | 3 | 3 | 1 | 0 | 0 | 2 | 4 | 4 | 1 | 1 | 2 | 0 | 0 | 2 | 2 | 1 | 1 | 1 | 2 | 2 | 2 | 3 | 3 | 3 | 1331002441120022111222333 | |
| | 2 | 6 | 8 | 4 | 4 | 3 | 7 | 4 | 0 | 3 | 7 | 2 | 1 | 2 | 3 | 1 | 1 | 0 | 8 | 0 | 6 | 9 | 0 | 2 | 3 | 26844374037212311080690233 | |

Hemangiosarcoma

| | | | | | | | | | | | | | | | | | | | | | | | | |
|-----------------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Spleen | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| Hemangiosarcoma | | | | | | | | | | | | | | | | | | | | | | | | |
| Sarcoma | | | | X | | | | | | | | | | | | | | | | | | | | |

| | | | | | | | | | | | | | | | | | | | | | | | | |
|-------------------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Thymus | + | + | + | + | M | + | + | + | + | + | + | + | + | + | + | + | + | + | M | + | + | + | + | + |
| Thymoma Benign | | | | | | | | | | | | | | | | | | | | | | | | |
| Thymoma Malignant | | | | X | | | | | | | | | | | | | | | | | | | | |

INTEGUMENTARY SYSTEM

| | | | | | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Mammary Gland | M | M | + | M | M | M | M | M | M | M | M | + | M | M | + | M | M | M | M | M | M | M | M | M |
| Skin | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| Subcutaneous Tissue, Fibroma | | | | | | | | | | | | | | | | | | | | | | | | |
| Subcutaneous Tissue, Hemangiopericytoma | | | | | | | | | | | X | | | | | | | | | | | | | |
| Subcutaneous Tissue, Hemangiosarcoma | | | | | | | | | | | | | | | | | | | | | | | | |
| Subcutaneous Tissue, Lipoma | | | | | | | | | | | | | | | | | | | | | | | | |
| Subcutaneous Tissue, Liposarcoma | | | | | | | X | | | | | | | | | | | | | | | | | |

MUSCULOSKELETAL SYSTEM

| | | | | | | | | | | | | | | | | | | | | | | | | |
|--------------------------------------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Bone | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| Osteosarcoma | | | | | | | | | | | | X | | | | | | | | | | | | |
| Sarcoma, Metastatic, Salivary Glands | | | | | | | | X | | | | | | | | | | | | | | | | |

NERVOUS SYSTEM

| | | | | | | | | | | | | | | | | | | | | | | | | |
|--------------------------------------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Brain | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| Granular Cell Tumor Benign | | | | | | | | | | | | | | | | | | | | | | | | |
| Sarcoma, Metastatic, Salivary Glands | | | | | | | | X | | | | | | | | | | | | | | | | |

* .. Total animals with tissue examined microscopically; Total animals with tumor
 + .. Tissue examined microscopically
 X .. Lesion present
 I .. Insufficient tissue

M .. Missing tissue
 A .. Autolysis precludes evaluation
 BLANK .. Not examined microscopically

Experiment Number: 20515 - 03
 Test Type: CHRONIC
 Route: RESPIRATORY EXPOSURE WHOLE BODY
 Species/Strain: RATS/Wistar Han

P17: NEOPLASMS BY INDIVIDUAL ANIMAL (SYSTEMIC LESIONS ABRIDGED)
 Metal working fluids (CIMSTAR 3800)
 CAS Number: CIMSTAR3800

Date Report Requested: 02/18/2014
 Time Report Requested: 12:32:34
 First Dose M/F: 04/14/08 / 04/14/08
 Lab: BNW

| WISTAR HAN RATS MALE | DAY ON TEST | | | | | | | | | | | | | | | | | | | | | | | | * TOTALS |
|----------------------|-------------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|----------|
| | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| 100 mg/m3 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | |
| ANIMAL ID | 2 | 2 | 2 | 2 | 2 | 2 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | |
| | 9 | 9 | 9 | 9 | 9 | 9 | 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 | |
| | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | |
| | 3 | 3 | 4 | 4 | 4 | 5 | 0 | 0 | 1 | 1 | 2 | 2 | 3 | 3 | 4 | 4 | 4 | 4 | 0 | 0 | 0 | 1 | 2 | 3 | |
| | 4 | 5 | 3 | 6 | 9 | 0 | 7 | 9 | 5 | 9 | 4 | 8 | 1 | 9 | 1 | 2 | 5 | 7 | 5 | 6 | 8 | 6 | 5 | 8 | |

ALIMENTARY SYSTEM

| | | | | | | | | | | | | | | | | | | | | | | | | | |
|---------------------------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|----|
| Esophagus | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 |
| Intestine Large, Cecum | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 49 |
| Intestine Large, Colon | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 49 |
| Intestine Large, Rectum | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 48 |
| Intestine Small, Duodenum | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 49 |
| Intestine Small, Ileum | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 49 |
| Intestine Small, Jejunum | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 49 |
| Liver | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 |
| Mesentery | | | | | | | | | | | | | | | | | | | | | | | | | 2 |
| Liposarcoma | | | | | | | | | | | | | | | | | | | | | | | | | 1 |
| Pancreas | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 |
| Carcinoma | | | | | | | | | | | | | | | | | | | | | | | | | 1 |
| Salivary Glands | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 |
| Sarcoma | | | | | | | | | | | | | | | | | | | | | | | | | 1 |
| Stomach, Forestomach | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 |
| Stomach, Glandular | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 |
| Tooth | | | | | | | | | | | | | | | | | | | | | | | | | 1 |

* .. Total animals with tissue examined microscopically; Total animals with tumor
 + .. Tissue examined microscopically
 X .. Lesion present
 I .. Insufficient tissue

M .. Missing tissue
 A .. Autolysis precludes evaluation
 BLANK .. Not examined microscopically

Experiment Number: 20515 - 03
 Test Type: CHRONIC
 Route: RESPIRATORY EXPOSURE WHOLE BODY
 Species/Strain: RATS/Wistar Han

P17: NEOPLASMS BY INDIVIDUAL ANIMAL (SYSTEMIC LESIONS ABRIDGED)
 Metal working fluids (CIMSTAR 3800)
 CAS Number: CIMSTAR3800

Date Report Requested: 02/18/2014
 Time Report Requested: 12:32:34
 First Dose M/F: 04/14/08 / 04/14/08
 Lab: BNW

| WISTAR HAN RATS MALE | DAY ON TEST | | | | | | | | | | | | | | | | | | | | | | * TOTALS |
|----------------------|-------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|----------|
| | 07 | 07 | 07 | 07 | 07 | 07 | 07 | 07 | 07 | 07 | 07 | 07 | 07 | 07 | 07 | 07 | 07 | 07 | 07 | 07 | 07 | 07 | |
| 100 mg/m3 | 29 | 29 | 29 | 29 | 29 | 29 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 30 |
| | ANIMAL ID | 00634 | 00664 | 00664 | 00669 | 00669 | 00669 | 00669 | 00669 | 00669 | 00669 | 00669 | 00669 | 00669 | 00669 | 00669 | 00669 | 00669 | 00669 | 00669 | 00669 | 00669 | 00669 |
| | | 45 | 36 | 44 | 49 | 00 | 07 | 09 | 05 | 09 | 04 | 08 | 01 | 09 | 01 | 02 | 03 | 04 | 04 | 05 | 07 | 05 | 06 |

NONE

GENITAL SYSTEM

| | | | | | | | | | | | | | | | | | | | | | | | | |
|----------------------------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|----|
| Coagulating Gland | | | | | | | | | | | | | | | | | | | | | | | 1 | |
| Epididymis | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 |
| Preputial Gland | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 |
| Prostate | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 |
| Adenoma | | | | | | | | | | | | | | | | | | | | | X | X | 2 | |
| Adenoma, Multiple | | | | | | | | | | | | | | | | | | | | | | | 1 | |
| Seminal Vesicle | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 |
| Testes | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 |
| Interstitial Cell, Adenoma | | | | | | | | | | | | | | | X | | 2 | | | | | | | |

HEMATOPOIETIC SYSTEM

| | | | | | | | | | | | | | | | | | | | | | | | | | | |
|-------------------------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|----|---|----|
| Bone Marrow | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 | | |
| Lymph Node | | | | | | | + | | | | | | | + | | | | | | | 5 | | | | | |
| Lymph Node, Bronchial | + | + | + | M | + | + | + | M | M | + | + | + | + | + | M | M | + | + | + | + | + | M | + | + | M | 35 |
| Lymph Node, Mandibular | + | + | + | + | M | + | + | M | + | + | + | + | + | + | + | + | + | M | + | + | + | + | + | + | + | 45 |
| Lymph Node, Mediastinal | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | M | + | + | + | + | + | + | + | + | + | 49 |
| Lymph Node, Mesenteric | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 |

* .. Total animals with tissue examined microscopically; Total animals with tumor
 + .. Tissue examined microscopically
 X .. Lesion present
 I .. Insufficient tissue

M .. Missing tissue
 A .. Autolysis precludes evaluation
 BLANK .. Not examined microscopically

Experiment Number: 20515 - 03
 Test Type: CHRONIC
 Route: RESPIRATORY EXPOSURE WHOLE BODY
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 Metal working fluids (CIMSTAR 3800)
 CAS Number: CIMSTAR3800

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 Lab: BNW

| WISTAR HAN RATS MALE
100 mg/m3 | DAY ON TEST | | | | | | | | | | | | | | | | | | | | | | | | * TOTALS |
|---|-------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|----------|
| | 0729 | 0729 | 0729 | 0729 | 0729 | 0729 | 0729 | 0729 | 0729 | 0729 | 0729 | 0729 | 0729 | 0729 | 0729 | 0729 | 0729 | 0729 | 0729 | 0729 | 0729 | 0729 | 0729 | 0729 | |
| ANIMAL ID | 00634 | 00663 | 00664 | 00664 | 00669 | 00670 | 00677 | 00679 | 00685 | 00689 | 00694 | 00698 | 00704 | 00708 | 00713 | 00719 | 00725 | 00731 | 00737 | 00743 | 00749 | 00755 | 00761 | 00767 | |
| Hemangiosarcoma | | | | | | | | | | | | | | | | | | X | | X | | | | | 2 |
| Spleen | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 |
| Hemangiosarcoma | | | | | | | | | | | | | | | | | | | | | | | | | 1 |
| Sarcoma | | | | | | | | | | | | | | | | | | | | | | | | | 1 |
| Thymus | + | + | + | + | + | + | | I | I | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 46 | |
| Thymoma Benign | | | | | | | X | | | | | | | | | | | | | | | | | 1 | |
| Thymoma Malignant | | | | | | | | | | | | | | | | | | | | | | | | 1 | |
| INTEGUMENTARY SYSTEM | | | | | | | | | | | | | | | | | | | | | | | | | |
| Mammary Gland | M | M | M | M | M | M | M | M | + | M | M | M | M | M | M | M | M | M | M | M | M | M | M | M | 4 |
| Skin | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 | |
| Subcutaneous Tissue, Fibroma | | | | | | | | | | | | | | | | | | | | | | | | 1 | |
| Subcutaneous Tissue, Hemangiopericytoma | | | | | | | | | | | | | | | | | | | | | | | | 1 | |
| Subcutaneous Tissue, Hemangiosarcoma | | | | | | | | | | | | | | | | | | | | | | | X | 1 | |
| Subcutaneous Tissue, Lipoma | | | | | | | | | | | | | | | | | | | | | | | | 1 | |
| Subcutaneous Tissue, Liposarcoma | | | | | | | | | X | | | | | | | | | | | | | | | 1 | |
| MUSCULOSKELETAL SYSTEM | | | | | | | | | | | | | | | | | | | | | | | | | |
| Bone | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 | |
| Osteosarcoma | | | | | | | | | | | | | | | | | | | | | | | | 2 | |
| Sarcoma, Metastatic, Salivary Glands | | | | | | | | | | | | | | | | | | | | | | | | 1 | |
| NERVOUS SYSTEM | | | | | | | | | | | | | | | | | | | | | | | | | |
| Brain | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 | |
| Granular Cell Tumor Benign | | | | | | | | | | | | | | | | X | | | | | | | | 1 | |
| Sarcoma, Metastatic, Salivary Glands | | | | | | | | | | | | | | | | | | | | | | | | 1 | |

* .. Total animals with tissue examined microscopically; Total animals with tumor
 + .. Tissue examined microscopically
 X .. Lesion present
 I .. Insufficient tissue

M .. Missing tissue
 A .. Autolysis precludes evaluation
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 Lab: BNW

| WISTAR HAN RATS MALE
100 mg/m3 | DAY ON TEST | | | | | | | | | | | | | | | | | | | | | | | | * TOTALS |
|-----------------------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|----------|
| | 0
7
2
9 | 0
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| ANIMAL ID | 0
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7 | 0
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9 | 0
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9 | 0
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4 | 0
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8 | 0
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9 | 0
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6
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7 | 0
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6
3
8 | |

Peripheral Nerve 6
 Spinal Cord 6

RESPIRATORY SYSTEM

Larynx 50
 Sarcoma, Metastatic, Salivary Glands 1
 Lung 50
 Osteosarcoma, Metastatic, Bone 1
 Sarcoma, Metastatic, Salivary Glands 1
 Nose 50
 Sarcoma, Metastatic, Salivary Glands 1
 Trachea 50
 Sarcoma, Metastatic, Salivary Glands 1

SPECIAL SENSES SYSTEM

Eye 50
 Harderian Gland 50
 Sarcoma, Metastatic, Salivary Glands 1

URINARY SYSTEM

Kidney 50
 Lipoma 1
 Urinary Bladder 49

* .. Total animals with tissue examined microscopically; Total animals with tumor
 + .. Tissue examined microscopically
 X .. Lesion present
 I .. Insufficient tissue

M .. Missing tissue
 A .. Autolysis precludes evaluation
 BLANK .. Not examined microscopically

Experiment Number: 20515 - 03
 Test Type: CHRONIC
 Route: RESPIRATORY EXPOSURE WHOLE BODY
 Species/Strain: RATS/Wistar Han

P17: NEOPLASMS BY INDIVIDUAL ANIMAL (SYSTEMIC LESIONS ABRIDGED)
 Metal working fluids (CIMSTAR 3800)
 CAS Number: CIMSTAR3800

Date Report Requested: 02/18/2014
 Time Report Requested: 12:32:34
 First Dose M/F: 04/14/08 / 04/14/08
 Lab: BNW

| WISTAR HAN RATS FEMALE
Control | DAY ON TEST | | | | | | | | | | | | | | | | | | | | | | | | females
(cont...) |
|-----------------------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|----------------------|
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9 | 0
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3
1 | |

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|--------------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Blood Vessel | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| Heart | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |

ENDOCRINE SYSTEM

| | | | | | | | | | | | | | | | | | | | | | | | | |
|--|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Adrenal Cortex
Adenoma | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | |
| Adrenal Medulla
Pheochromocytoma Benign
Pheochromocytoma Malignant | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | M | + | + | + |
| Islets, Pancreatic
Adenoma | + | + | + | + | + | + | + | + | A | + | + | + | + | + | + | + | + | + | + | + | + | + | + | |
| Parathyroid Gland | + | + | + | + | + | + | + | + | + | + | + | + | M | + | + | + | M | + | + | + | + | + | + | |
| Pituitary Gland
Pars Distalis, Adenoma
Pars Intermedia, Adenoma | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | |
| Thyroid Gland
C-cell, Adenoma
Follicular Cell, Adenoma
Follicular Cell, Carcinoma | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | |

GENERAL BODY SYSTEM

NONE

GENITAL SYSTEM

* .. Total animals with tissue examined microscopically; Total animals with tumor
 + .. Tissue examined microscopically
 X .. Lesion present
 I .. Insufficient tissue

M .. Missing tissue
 A .. Autolysis precludes evaluation
 BLANK .. Not examined microscopically

Experiment Number: 20515 - 03
 Test Type: CHRONIC
 Route: RESPIRATORY EXPOSURE WHOLE BODY
 Species/Strain: RATS/Wistar Han

P17: NEOPLASMS BY INDIVIDUAL ANIMAL (SYSTEMIC LESIONS ABRIDGED)
 Metal working fluids (CIMSTAR 3800)
 CAS Number: CIMSTAR3800

Date Report Requested: 02/18/2014
 Time Report Requested: 12:32:34
 First Dose M/F: 04/14/08 / 04/14/08
 Lab: BNW

| WISTAR HAN RATS FEMALE
Control | DAY ON TEST | | | | | | | | | | | | | | | | | | | | | | | | ANIMAL ID | females
(cont...) |
|--|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|-----------------------|-----------------------|----------------------|
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8 | 0
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3 | 0
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1 | 0
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1 | 0
7
3
1 | | | |
| Clitoral Gland | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 0
0
1
3
7 | | |
| Ovary
Granulosa Cell Tumor Benign | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 0
0
1
3
7 | | |
| Uterus
Polyp Stromal
Polyp Stromal, Multiple
Sarcoma Stromal
Endometrium, Adenocarcinoma
Endometrium, Squamous Cell Papilloma | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 0
0
1
3
7 | X

X | |
| HEMATOPOIETIC SYSTEM | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Bone Marrow | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 0
0
1
3
7 | | |
| Lymph Node | | | | | | | | | | | | | | | | | | | | | | | | 0
0
1
3
7 | | |
| Lymph Node, Bronchial | + | + | + | + | M | M | + | M | + | + | + | + | M | + | + | + | + | + | M | M | + | M | + | M | 0
0
1
3
7 | |
| Lymph Node, Mandibular | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 0
0
1
3
7 | | |
| Lymph Node, Mediastinal | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 0
0
1
3
7 | | |
| Lymph Node, Mesenteric
Hemangiosarcoma | + | + | + | + | + | + | + | + | + | A | + | + | + | + | + | + | + | + | + | + | + | + | + | 0
0
1
3
7 | | |
| Spleen | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 0
0
1
3
7 | | |
| Thymus
Thymoma Benign | + | + | + | + | + | + | + | + | + | + | + | + | M | + | + | + | + | + | + | + | + | + | + | 0
0
1
3
7 | X
X

X | |

* .. Total animals with tissue examined microscopically; Total animals with tumor
 + .. Tissue examined microscopically
 X .. Lesion present
 I .. Insufficient tissue

M .. Missing tissue
 A .. Autolysis precludes evaluation
 BLANK .. Not examined microscopically

Experiment Number: 20515 - 03
 Test Type: CHRONIC
 Route: RESPIRATORY EXPOSURE WHOLE BODY
 Species/Strain: RATS/Wistar Han

P17: NEOPLASMS BY INDIVIDUAL ANIMAL (SYSTEMIC LESIONS ABRIDGED)
 Metal working fluids (CIMSTAR 3800)
 CAS Number: CIMSTAR3800

Date Report Requested: 02/18/2014
 Time Report Requested: 12:32:34
 First Dose M/F: 04/14/08 / 04/14/08
 Lab: BNW

| WISTAR HAN RATS FEMALE
Control | DAY ON TEST | | | | | | | | | | | | | | | | | | | | | | | | ANIMAL ID | females
(cont...) |
|-----------------------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|-----------------------|-----------|----------------------|
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8 | 0
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3 | 0
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3 | 0
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9 | 0
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1 | | | |
| | 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
3
7 | | |

INTEGUMENTARY SYSTEM

| | | | | | | | | | | | | | | | | | | | | | | | | |
|----------------------------------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|--|
| Mammary Gland | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | |
| Adenoma | | | | | | | | | X | | | | | | | | | | | | X | | | |
| Carcinoma | | | | | | | | | | | X | | | | | | | | | | | | | |
| Carcinoma, Multiple | | | | | | | | | | | | | | | | | | | | | | | | |
| Fibroadenoma | | | | | | | | X | | | | X | | | | | | | | | | | | |
| Fibroadenoma, Multiple | | | | | | | | | | | X | | | | X | | | | | | | | | |
| Skin | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | |
| Subcutaneous Tissue, Liposarcoma | | | | | | | | | | | | | | | | | | | | | | | | |

MUSCULOSKELETAL SYSTEM

| | | | | | | | | | | | | | | | | | | | | | | | | |
|------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|--|
| Bone | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | |
|------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|--|

NERVOUS SYSTEM

| | | | | | | | | | | | | | | | | | | | | | | | | |
|----------------------------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|--|
| Brain | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | |
| Granular Cell Tumor Benign | | | | | | | | | | | | | | | | | | | | | | | | |
| Peripheral Nerve | | | | + | | | | | | | | | | + | | | | | | | | | | |
| Spinal Cord | | | | + | | | | | | | | | | + | | | | | | | | | | |

RESPIRATORY SYSTEM

| | | | | | | | | | | | | | | | | | | | | | | | | |
|--------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|--|
| Larynx | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | |
| Lung | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | |
| Nose | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | |

* .. Total animals with tissue examined microscopically; Total animals with tumor
 + .. Tissue examined microscopically
 X .. Lesion present
 I .. Insufficient tissue

M .. Missing tissue
 A .. Autolysis precludes evaluation
 BLANK .. Not examined microscopically

Experiment Number: 20515 - 03
 Test Type: CHRONIC
 Route: RESPIRATORY EXPOSURE WHOLE BODY
 Species/Strain: RATS/Wistar Han

P17: NEOPLASMS BY INDIVIDUAL ANIMAL (SYSTEMIC LESIONS ABRIDGED)
 Metal working fluids (CIMSTAR 3800)
 CAS Number: CIMSTAR3800

Date Report Requested: 02/18/2014
 Time Report Requested: 12:32:34
 First Dose M/F: 04/14/08 / 04/14/08
 Lab: BNW

| WISTAR HAN RATS FEMALE | DAY ON TEST | | | | | | | | | | | | | | | | | | | | | | | | females
(cont...) |
|------------------------------|-------------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--|----------------------|
| | 0
4 | 0
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7 | 0
7 | 0
7 | 0
7 | | |
| Control | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| | 9 | 9 | 8 | 9 | 1 | 1 | 1 | 1 | 4 | 9 | 9 | 0 | 0 | 0 | 1 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | | |
| | 2 | 9 | 6 | 9 | 0 | 0 | 9 | 9 | 5 | 0 | 8 | 3 | 3 | 9 | 2 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | | |
| | 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 | | |
| 3 | 2 | 1 | 0 | 0 | 3 | 3 | 4 | 1 | 0 | 2 | 2 | 4 | 4 | 1 | 0 | 0 | 0 | 1 | 1 | 1 | 1 | 2 | 3 | | |
| 7 | 8 | 3 | 1 | 3 | 0 | 3 | 0 | 6 | 6 | 3 | 4 | 3 | 9 | 0 | 5 | 7 | 8 | 1 | 2 | 5 | 9 | 2 | 8 | | |
| Trachea | + | + | + | + | + | + | + | + | + | A | + | + | + | + | + | + | + | + | + | + | + | + | | | |
| SPECIAL SENSES SYSTEM | | | | | | | | | | | | | | | | | | | | | | | | | |
| Eye | + | + | + | + | + | + | + | + | + | A | + | + | + | + | + | + | + | + | + | + | + | + | | | |
| Harderian Gland | + | + | + | + | + | + | + | + | + | A | + | + | + | + | + | + | + | + | + | + | + | + | | | |
| URINARY SYSTEM | | | | | | | | | | | | | | | | | | | | | | | | | |
| Kidney | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | | | |
| Renal Tubule, Adenoma | | | | | | | | | | | | | | | | | | | | | | | | | |
| Urinary Bladder | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | | | |
| SYSTEMIC LESIONS | | | | | | | | | | | | | | | | | | | | | | | | | |
| Multiple Organ | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | | | |
| Lymphoma Malignant | | | | | | | | | | | | | | | | | | | | | X | + | X | | |

* .. Total animals with tissue examined microscopically; Total animals with tumor
 + .. Tissue examined microscopically
 X .. Lesion present
 I .. Insufficient tissue

M .. Missing tissue
 A .. Autolysis precludes evaluation
 BLANK .. Not examined microscopically

Experiment Number: 20515 - 03
 Test Type: CHRONIC
 Route: RESPIRATORY EXPOSURE WHOLE BODY
 Species/Strain: RATS/Wistar Han

P17: NEOPLASMS BY INDIVIDUAL ANIMAL (SYSTEMIC LESIONS ABRIDGED)
 Metal working fluids (CIMSTAR 3800)
 CAS Number: CIMSTAR3800

Date Report Requested: 02/18/2014
 Time Report Requested: 12:32:34
 First Dose M/F: 04/14/08 / 04/14/08
 Lab: BNW

| WISTAR HAN RATS FEMALE | DAY ON TEST | | | | | | | | | | | | | | | | | | | | | | | | * TOTALS |
|------------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|
| | 0
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| Control | ANIMAL ID | | | | | | | | | | | | | | | | | | | | | | | | |
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0 |

ALIMENTARY SYSTEM

| | | | | | | | | | | | | | | | | | | | | | | | | | |
|--|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---------|
| Esophagus | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 |
| Intestine Large, Cecum | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 49 |
| Intestine Large, Colon | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 49 |
| Intestine Large, Rectum | + | + | + | I | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | I | + | + | 46 |
| Intestine Small, Duodenum | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 49 |
| Intestine Small, Ileum | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 49 |
| Intestine Small, Jejunum | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 49 |
| Liver | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 |
| Mesentery | | + | | + | | + | | + | | + | | + | | + | | + | | + | | + | | + | | + | 7 |
| Pancreas | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 49 |
| Salivary Glands | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 |
| Stomach, Forestomach
Leiomyosarcoma | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50
1 |
| Stomach, Glandular
Leiomyosarcoma | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50
1 |
| Tongue | | | | + | | | | | | | | | | | | | | | | | | | | | 1 |

CARDIOVASCULAR SYSTEM

* .. Total animals with tissue examined microscopically; Total animals with tumor
 + .. Tissue examined microscopically
 X .. Lesion present
 I .. Insufficient tissue

M .. Missing tissue
 A .. Autolysis precludes evaluation
 BLANK .. Not examined microscopically

Experiment Number: 20515 - 03
 Test Type: CHRONIC
 Route: RESPIRATORY EXPOSURE WHOLE BODY
 Species/Strain: RATS/Wistar Han

P17: NEOPLASMS BY INDIVIDUAL ANIMAL (SYSTEMIC LESIONS ABRIDGED)
 Metal working fluids (CIMSTAR 3800)
 CAS Number: CIMSTAR3800

Date Report Requested: 02/18/2014
 Time Report Requested: 12:32:34
 First Dose M/F: 04/14/08 / 04/14/08
 Lab: BNW

| WISTAR HAN RATS FEMALE | DAY ON TEST | | | | | | | | | | | | | | | | | | | | | | | | * TOTALS | |
|----------------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|----------|-----------------------|
| | 0
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3 | | |
| Control | ANIMAL ID | | | | | | | | | | | | | | | | | | | | | | | | * TOTALS | |
| | 0
0
1
4
6 | 0
0
1
0
2 | 0
0
1
0
4 | 0
0
1
0
9 | 0
0
1
1
7 | 0
0
1
1
8 | 0
0
1
2
0 | 0
0
1
2
7 | 0
0
1
3
2 | 0
0
1
3
4 | 0
0
1
3
5 | 0
0
1
3
6 | 0
0
1
3
1 | 0
0
1
4
5 | 0
0
1
4
7 | 0
0
1
4
8 | 0
0
1
1
4 | 0
0
1
2
1 | 0
0
1
2
5 | 0
0
1
2
6 | 0
0
1
2
9 | 0
0
1
3
9 | 0
0
1
4
2 | 0
0
1
4
4 | | 0
0
1
5
0 |
| Blood Vessel | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 | |
| Heart | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 | |
| ENDOCRINE SYSTEM | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Adrenal Cortex | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 | |
| Adenoma | | | | | | | | | | | | X | | | | | | | X | | | | | 2 | | |
| Adrenal Medulla | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 49 | | |
| Pheochromocytoma Benign | | | X | | | | | | | | | | | | | | | | | | | | | 1 | | |
| Pheochromocytoma Malignant | | | | | | | | | | | | | | | | | | | | | | | | 1 | | |
| Islets, Pancreatic | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 49 | | |
| Adenoma | | | | | | | | | | | | | | | | | | | | | | | | 1 | | |
| Parathyroid Gland | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | M | + | + | 47 | | |
| Pituitary Gland | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 | | |
| Pars Distalis, Adenoma | X | | X | X | | X | X | X | | | | | X | X | X | X | X | X | X | X | X | X | X | 35 | | |
| Pars Intermedia, Adenoma | | | | | | | | | | | | | | X | | | | | | | | | | 1 | | |
| Thyroid Gland | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 | | |
| C-cell, Adenoma | | | | | | | | | | | | | | | | | | | | | | | | 3 | | |
| Follicular Cell, Adenoma | | | | | | | | | | | | | | | | | | | | | | | | 1 | | |
| Follicular Cell, Carcinoma | | | | | | | | | | | | | | | | | | | | | | X | | 1 | | |

GENERAL BODY SYSTEM

NONE

GENITAL SYSTEM

* .. Total animals with tissue examined microscopically; Total animals with tumor
 + .. Tissue examined microscopically
 X .. Lesion present
 I .. Insufficient tissue

M .. Missing tissue
 A .. Autolysis precludes evaluation
 BLANK .. Not examined microscopically

Experiment Number: 20515 - 03
 Test Type: CHRONIC
 Route: RESPIRATORY EXPOSURE WHOLE BODY
 Species/Strain: RATS/Wistar Han

P17: NEOPLASMS BY INDIVIDUAL ANIMAL (SYSTEMIC LESIONS ABRIDGED)
 Metal working fluids (CIMSTAR 3800)
 CAS Number: CIMSTAR3800

Date Report Requested: 02/18/2014
 Time Report Requested: 12:32:34
 First Dose M/F: 04/14/08 / 04/14/08
 Lab: BNW

| WISTAR HAN RATS FEMALE | DAY ON TEST | | | | | | | | | | | | | | | | | | | | | | | | * TOTALS | | |
|--|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|--|--|
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3 | 0
7
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3 | 0
7
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3 | | | |
| Control | ANIMAL ID | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | 0
0
1
4
6 | 0
0
1
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2 | 0
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1
0
4 | 0
0
1
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9 | 0
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7 | 0
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1
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8 | 0
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2
0 | 0
0
1
2
7 | 0
0
1
3
2 | 0
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3
4 | 0
0
1
3
5 | 0
0
1
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6 | 0
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3
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3
5 | 0
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7 | 0
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4
8 | 0
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1
2 | 0
0
1
3
3 | 0
0
1
4
4 | 0
0
1
4
4 | 0
0
1
5
0 | | |
| Clitoral Gland | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 | | |
| Ovary | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 | | |
| Granulosa Cell Tumor Benign | | | | | | | | | | | | | | | | | | | | | | X | | | 1 | | |
| Uterus | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 | | |
| Polyp Stromal | | | | | | | | | | | | | | | | | | | | | | | | X | 4 | | |
| Polyp Stromal, Multiple | | | | | | | | | | | X | | | | | | | | | | | | | | 1 | | |
| Sarcoma Stromal | | | | | | | | | | | | | | | | | | | | | | | | | 2 | | |
| Endometrium, Adenocarcinoma | | | | | | | | | | | | | | | | | | | | | | | | | 1 | | |
| Endometrium, Squamous Cell Papilloma | | | | X | | | | | | | | | | | | | | | | | | | | | 1 | | |
| HEMATOPOIETIC SYSTEM | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Bone Marrow | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 | | |
| Lymph Node | | | | | | | | | | | | | | | | | | | | | | | | | 2 | | |
| Lymph Node, Bronchial | M | M | + | + | + | + | + | + | + | + | M | + | + | + | + | + | + | + | + | M | + | + | + | 38 | | | |
| Lymph Node, Mandibular | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | M | + | + | + | + | + | 49 | | | |
| Lymph Node, Mediastinal | + | + | + | + | M | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 49 | | | |
| Lymph Node, Mesenteric Hemangiosarcoma | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | X | 49 | | | |
| Spleen | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 | | | |
| Thymus | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 48 | | | |
| Thymoma Benign | | | | | | | | | | | | | | | M | + | + | + | + | + | + | + | + | 5 | | | |

* .. Total animals with tissue examined microscopically; Total animals with tumor
 + .. Tissue examined microscopically
 X .. Lesion present
 I .. Insufficient tissue

M .. Missing tissue
 A .. Autolysis precludes evaluation
 BLANK .. Not examined microscopically

Experiment Number: 20515 - 03
 Test Type: CHRONIC
 Route: RESPIRATORY EXPOSURE WHOLE BODY
 Species/Strain: RATS/Wistar Han

P17: NEOPLASMS BY INDIVIDUAL ANIMAL (SYSTEMIC LESIONS ABRIDGED)
 Metal working fluids (CIMSTAR 3800)
 CAS Number: CIMSTAR3800

Date Report Requested: 02/18/2014
 Time Report Requested: 12:32:34
 First Dose M/F: 04/14/08 / 04/14/08
 Lab: BNW

| WISTAR HAN RATS FEMALE | DAY ON TEST | | | | | | | | | | | | | | | | | | | | | | | | * TOTALS |
|------------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|
| | 0
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3 | 0
7
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3 | 0
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3 | |
| Control | 0
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1
4
6 | 0
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1
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2 | 0
0
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0
4 | 0
0
1
0
9 | 0
0
1
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7 | 0
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8 | 0
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1
2
0 | 0
0
1
2
7 | 0
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1
3
2 | 0
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1
3
4 | 0
0
1
3
5 | 0
0
1
3
6 | 0
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1
3
1 | 0
0
1
4
5 | 0
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1
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7 | 0
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1
4
8 | 0
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1
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4 | 0
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1 | 0
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5 | 0
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2
6 | 0
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9 | 0
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1
3
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1
4
2 | 0
0
1
4
4 | 0
0
1
5
0 |

INTEGUMENTARY SYSTEM

| | | | | | | | | | | | | | | | | | | | | | | | | | |
|----------------------------------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|----|
| Mammary Gland | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 |
| Adenoma | | | | | | | | | | | | | | | | | | | | | | | | | 2 |
| Carcinoma | | | | | | | X | | | | | | | | | | | | | | | | | | 3 |
| Carcinoma, Multiple | | | | | | | | | | | | | | | | | | | | X | | | | | 1 |
| Fibroadenoma | X | | | | | | | | | | | X | X | | | | | | | X | | | | | 6 |
| Fibroadenoma, Multiple | | | | | | | | | | | | | | | | | | | | | | | | | 3 |
| Skin | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 |
| Subcutaneous Tissue, Liposarcoma | | | | | | | | | | | | | | X | | | | | | | | | | | 1 |

MUSCULOSKELETAL SYSTEM

| | | | | | | | | | | | | | | | | | | | | | | | | | |
|------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|----|
| Bone | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 |
|------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|----|

NERVOUS SYSTEM

| | | | | | | | | | | | | | | | | | | | | | | | | | |
|----------------------------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|----|
| Brain | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 |
| Granular Cell Tumor Benign | | | | | | X | | | | | | | X | | | | | | | | | | | | 2 |
| Peripheral Nerve | | | | | | | | | | | | | | | | | | | | | | | | | 2 |
| Spinal Cord | | | | | | | | | | | | | | | | | | | | | | | | | 2 |

RESPIRATORY SYSTEM

| | | | | | | | | | | | | | | | | | | | | | | | | | |
|--------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|----|
| Larynx | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 |
| Lung | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 |
| Nose | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 |

* .. Total animals with tissue examined microscopically; Total animals with tumor
 + .. Tissue examined microscopically
 X .. Lesion present
 I .. Insufficient tissue

M .. Missing tissue
 A .. Autolysis precludes evaluation
 BLANK .. Not examined microscopically

Experiment Number: 20515 - 03
 Test Type: CHRONIC
 Route: RESPIRATORY EXPOSURE WHOLE BODY
 Species/Strain: RATS/Wistar Han

P17: NEOPLASMS BY INDIVIDUAL ANIMAL (SYSTEMIC LESIONS ABRIDGED)
 Metal working fluids (CIMSTAR 3800)
 CAS Number: CIMSTAR3800

Date Report Requested: 02/18/2014
 Time Report Requested: 12:32:34
 First Dose M/F: 04/14/08 / 04/14/08
 Lab: BNW

| WISTAR HAN RATS FEMALE | DAY ON TEST | | | | | | | | | | | | | | | | | | | | | | | | * TOTALS | |
|------------------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|----------|--|
| | 0
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3 | | |
| 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 | | |
| | 4 | 0 | 0 | 0 | 1 | 1 | 2 | 2 | 3 | 3 | 3 | 3 | 4 | 4 | 4 | 4 | 1 | 2 | 2 | 2 | 2 | 3 | 4 | 4 | | |
| | 6 | 2 | 4 | 9 | 7 | 8 | 0 | 7 | 2 | 4 | 5 | 6 | 1 | 5 | 7 | 8 | 4 | 1 | 5 | 6 | 9 | 9 | 2 | 4 | 0 | |
| Trachea | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 49 | |
| SPECIAL SENSES SYSTEM | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Eye | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 49 | |
| Harderian Gland | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 49 | |
| URINARY SYSTEM | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Kidney | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 | |
| Renal Tubule, Adenoma | | | | | | | | | | | | | | | | | | | | | | | | X | 1 | |
| Urinary Bladder | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 | |
| SYSTEMIC LESIONS | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Multiple Organ | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 | |
| Lymphoma Malignant | | | | | | | | | | | | | | | | | | | | | | | | | 2 | |

* .. Total animals with tissue examined microscopically; Total animals with tumor
 + .. Tissue examined microscopically
 X .. Lesion present
 I .. Insufficient tissue

M .. Missing tissue
 A .. Autolysis precludes evaluation
 BLANK .. Not examined microscopically

Experiment Number: 20515 - 03
 Test Type: CHRONIC
 Route: RESPIRATORY EXPOSURE WHOLE BODY
 Species/Strain: RATS/Wistar Han

P17: NEOPLASMS BY INDIVIDUAL ANIMAL (SYSTEMIC LESIONS ABRIDGED)
 Metal working fluids (CIMSTAR 3800)
 CAS Number: CIMSTAR3800

Date Report Requested: 02/18/2014
 Time Report Requested: 12:32:34
 First Dose M/F: 04/14/08 / 04/14/08
 Lab: BNW

| WISTAR HAN RATS FEMALE | DAY ON TEST | | | | | | | | | | | | | | | | | | | | | | | | females
(cont...) |
|------------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|----------------------|
| | 0
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3 | 0
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8
3 | 0
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8
4 | 0
7
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7 | 0
7
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3 | 0
7
3
1 | 0
7
3
1 | 0
7
3
1 | 0
7
3
1 | 0
7
3
1 | 0
7
3
1 | | |
| 10 mg/m3 | 0
0
3
0
6 | 0
0
3
3
5 | 0
0
3
4
0 | 0
0
3
4
4 | 0
0
3
0
9 | 0
0
3
2
0 | 0
0
3
2
8 | 0
0
3
0
3 | 0
0
3
3
4 | 0
0
3
3
9 | 0
0
3
3
1 | 0
0
3
3
4 | 0
0
3
3
5 | 0
0
3
3
2 | 0
0
4
2
1 | 0
0
0
0
2 | 0
0
3
3
2 | 0
0
3
1
2 | 0
0
3
1
2 | 0
0
3
1
7 | 0
0
3
2
0 | 0
0
3
3
1 | 0
0
3
3
3 | 0
0
3
3
7 | |

ALIMENTARY SYSTEM

| | | | | | | | | | | | | | | | | | | | | | | | | |
|---------------------------------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Esophagus | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| Intestine Large, Cecum | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| Intestine Large, Colon | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| Intestine Large, Rectum | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| Intestine Small, Duodenum | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| Intestine Small, Ileum | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| Intestine Small, Jejunum | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| Liver
Hepatocellular Adenoma | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| Mesentery | | + | | + | | | | | + | | | | | | | | | | | | | | | |
| Pancreas | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| Salivary Glands | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| Stomach, Forestomach | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| Stomach, Glandular | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |

CARDIOVASCULAR SYSTEM

| | | | | | | | | | | | | | | | | | | | | | | | | |
|--------------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Blood Vessel | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
|--------------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|

* .. Total animals with tissue examined microscopically; Total animals with tumor
 + .. Tissue examined microscopically
 X .. Lesion present
 I .. Insufficient tissue

M .. Missing tissue
 A .. Autolysis precludes evaluation
 BLANK .. Not examined microscopically

Experiment Number: 20515 - 03
 Test Type: CHRONIC
 Route: RESPIRATORY EXPOSURE WHOLE BODY
 Species/Strain: RATS/Wistar Han

P17: NEOPLASMS BY INDIVIDUAL ANIMAL (SYSTEMIC LESIONS ABRIDGED)
 Metal working fluids (CIMSTAR 3800)
 CAS Number: CIMSTAR3800

Date Report Requested: 02/18/2014
 Time Report Requested: 12:32:34
 First Dose M/F: 04/14/08 / 04/14/08
 Lab: BNW

| WISTAR HAN RATS FEMALE | DAY ON TEST | | | | | | | | | | | | | | | | | | | | | | | | females
(cont...) |
|------------------------|-------------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----------------------|
| | 04 | 05 | 05 | 05 | 05 | 06 | 06 | 06 | 06 | 06 | 06 | 06 | 06 | 06 | 06 | 06 | 06 | 07 | 07 | 07 | 07 | 07 | 07 | 07 | |
| 10 mg/m3 | 8 | 3 | 3 | 4 | 6 | 0 | 1 | 2 | 3 | 3 | 5 | 8 | 8 | 8 | 8 | 8 | 0 | 2 | 3 | 3 | 3 | 3 | 3 | 3 | 3 |
| ANIMAL ID | 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 |
| | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 |
| | 0 | 3 | 4 | 4 | 0 | 3 | 2 | 2 | 0 | 3 | 3 | 4 | 0 | 0 | 4 | 2 | 0 | 3 | 1 | 1 | 1 | 2 | 3 | 3 | 3 |
| | 6 | 5 | 0 | 4 | 9 | 0 | 2 | 8 | 3 | 4 | 9 | 1 | 4 | 5 | 2 | 1 | 2 | 2 | 0 | 2 | 7 | 0 | 1 | 3 | 7 |

Harderian Gland

+ +

URINARY SYSTEM

Kidney
 Transitional Epithelium, Papilloma

+
 X

Urinary Bladder

+ +

SYSTEMIC LESIONS

Multiple Organ
 Mesothelioma Malignant

+
 X

* .. Total animals with tissue examined microscopically; Total animals with tumor
 + .. Tissue examined microscopically
 X .. Lesion present
 I .. Insufficient tissue

M .. Missing tissue
 A .. Autolysis precludes evaluation
 BLANK .. Not examined microscopically

Experiment Number: 20515 - 03
 Test Type: CHRONIC
 Route: RESPIRATORY EXPOSURE WHOLE BODY
 Species/Strain: RATS/Wistar Han

P17: NEOPLASMS BY INDIVIDUAL ANIMAL (SYSTEMIC LESIONS ABRIDGED)
 Metal working fluids (CIMSTAR 3800)
 CAS Number: CIMSTAR3800

Date Report Requested: 02/18/2014
 Time Report Requested: 12:32:34
 First Dose M/F: 04/14/08 / 04/14/08
 Lab: BNW

| WISTAR HAN RATS FEMALE
10 mg/m3 | DAY ON TEST | | | | | | | | | | | | | | | | | | | | * TOTALS | |
|--|-------------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|----------|--------------|
| | 0731 | 0731 | 0731 | 0731 | 0732 | 0732 | 0732 | 0732 | 0732 | 0732 | 0732 | 0732 | 0732 | 0732 | 0732 | 0732 | 0732 | 0732 | 0732 | 0732 | | 0732 |
| ANIMAL ID | 003338 | 003338 | 003338 | 003338 | 003338 | 003338 | 003338 | 003338 | 003338 | 003338 | 003338 | 003338 | 003338 | 003338 | 003338 | 003338 | 003338 | 003338 | 003338 | 003338 | 003338 | |
| Heart | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 |
| ENDOCRINE SYSTEM | | | | | | | | | | | | | | | | | | | | | | |
| Adrenal Cortex
Adenoma | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50
2 |
| Adrenal Medulla
Pheochromocytoma Malignant | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50
1 |
| Islets, Pancreatic | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 |
| Parathyroid Gland | + | + | + | + | + | M | + | + | M | + | + | + | + | + | + | + | + | M | + | + | + | 44 |
| Pituitary Gland
Pars Distalis, Adenoma | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50
33 |
| Thyroid Gland
C-cell, Adenoma
Follicular Cell, Carcinoma | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50
2
1 |
| GENERAL BODY SYSTEM | | | | | | | | | | | | | | | | | | | | | | |
| NONE | | | | | | | | | | | | | | | | | | | | | | |
| GENITAL SYSTEM | | | | | | | | | | | | | | | | | | | | | | |
| Clitoral Gland | + | + | + | + | + | + | + | + | + | + | + | I | + | + | + | M | + | + | + | + | + | 46 |
| Ovary
Granulosa Cell Tumor Malignant | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50
2 |
| Uterus | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 |

* .. Total animals with tissue examined microscopically; Total animals with tumor
 + .. Tissue examined microscopically
 X .. Lesion present
 I .. Insufficient tissue

M .. Missing tissue
 A .. Autolysis precludes evaluation
 BLANK .. Not examined microscopically

Experiment Number: 20515 - 03
 Test Type: CHRONIC
 Route: RESPIRATORY EXPOSURE WHOLE BODY
 Species/Strain: RATS/Wistar Han

P17: NEOPLASMS BY INDIVIDUAL ANIMAL (SYSTEMIC LESIONS ABRIDGED)
 Metal working fluids (CIMSTAR 3800)
 CAS Number: CIMSTAR3800

Date Report Requested: 02/18/2014
 Time Report Requested: 12:32:34
 First Dose M/F: 04/14/08 / 04/14/08
 Lab: BNW

| WISTAR HAN RATS FEMALE
10 mg/m3 | DAY ON TEST | | | | | | | | | | | | | | | | | | | | | | | | * TOTALS |
|------------------------------------|-------------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|----------|
| | 0731 | 0731 | 0731 | 0733 | 0733 | 0733 | 0733 | 0733 | 0733 | 0733 | 0733 | 0733 | 0733 | 0733 | 0733 | 0733 | 0733 | 0733 | 0733 | 0733 | 0733 | 0733 | 0733 | 0733 | |
| ANIMAL ID | 003338 | 003334 | 003334 | 003335 | 003330 | 003338 | 003331 | 003333 | 003335 | 003336 | 003338 | 003339 | 003333 | 003336 | 003337 | 003339 | 003336 | 003333 | 003335 | 003338 | 003339 | 003331 | 003334 | 003334 | 003335 |

| | | | | | | | | | | | | | | | | | | | | | | | | | | |
|---|---|--|--|--|--|--|--|---|--|--|--|--|--|--|---|---|--|--|--|--|--|--|--|--|--|---|
| Polyp Stromal Endometrium, Adenocarcinoma | X | | | | | | | X | | | | | | | X | X | | | | | | | | | | 6 |
| Vagina Squamous Cell Carcinoma | | | | | | | | X | | | | | | | | | | | | | | | | | | 1 |

HEMATOPOIETIC SYSTEM

| | | | | | | | | | | | | | | | | | | | | | | | | | | |
|--|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|----|
| Bone Marrow | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 |
| Lymph Node | | | | | | | | | | | | | | | | | | | | | | | | | | 2 |
| Lymph Node, Bronchial | + | + | M | M | + | + | + | + | + | + | M | M | + | + | M | M | + | M | M | M | + | M | + | + | + | 35 |
| Lymph Node, Mandibular | + | + | + | + | + | + | + | + | + | + | + | + | + | M | + | + | + | + | + | + | + | + | + | + | + | 47 |
| Lymph Node, Mediastinal | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | M | + | + | M | + | + | + | + | + | 46 |
| Lymph Node, Mesenteric Hemangiosarcoma | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 |
| | | | | X | | | | | | | | | | | | | | | | | | | | | 1 | |
| Spleen | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 |
| Thymus Thymoma Benign | M | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 48 |
| | | | | X | | | | | | | X | | | | | | | | | | | X | | | | 4 |

INTEGUMENTARY SYSTEM

| | | | | | | | | | | | | | | | | | | | | | | | | | | |
|------------------------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|----|
| Mammary Gland Adenoma | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 |
| Carcinoma | | | | X | | | | | | | | | | | | | | | | | | | | | | 1 |
| Fibroadenoma | X | | | | | | | | | X | | | | X | X | | | | | X | | | X | | | 5 |
| Fibroadenoma, Multiple | | | | | | | | | X | | | | X | X | | | | | | X | | | | | | 8 |
| | | | | | | | | | | | | | | | | | | | | | | | X | | | 2 |

* .. Total animals with tissue examined microscopically; Total animals with tumor
 + .. Tissue examined microscopically
 X .. Lesion present
 I .. Insufficient tissue
 M .. Missing tissue
 A .. Autolysis precludes evaluation
 BLANK .. Not examined microscopically

Experiment Number: 20515 - 03
 Test Type: CHRONIC
 Route: RESPIRATORY EXPOSURE WHOLE BODY
 Species/Strain: RATS/Wistar Han

P17: NEOPLASMS BY INDIVIDUAL ANIMAL (SYSTEMIC LESIONS ABRIDGED)
 Metal working fluids (CIMSTAR 3800)
 CAS Number: CIMSTAR3800

Date Report Requested: 02/18/2014
 Time Report Requested: 12:32:34
 First Dose M/F: 04/14/08 / 04/14/08
 Lab: BNW

| WISTAR HAN RATS FEMALE | DAY ON TEST | | | | | | | | | | | | | | | | | | | | | | | | females
(cont...) |
|------------------------|-------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|----------------------|
| | 053 | 058 | 063 | 064 | 066 | 066 | 066 | 066 | 066 | 066 | 066 | 066 | 066 | 066 | 066 | 066 | 066 | 066 | 066 | 066 | 066 | 066 | 066 | 066 | |
| 30 mg/m3 | 003 | 007 | 008 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | |
| ANIMAL ID | 553 | 557 | 558 | 552 | 555 | 550 | 550 | 553 | 551 | 554 | 553 | 554 | 550 | 553 | 554 | 556 | 559 | 553 | 555 | 556 | 559 | 553 | 559 | 552 | |

ALIMENTARY SYSTEM

| | | | | | | | | | | | | | | | | | | | | | | | |
|---------------------------------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Esophagus | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| Intestine Large, Cecum | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| Intestine Large, Colon | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| Intestine Large, Rectum | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| Intestine Small, Duodenum | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| Intestine Small, Ileum | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| Intestine Small, Jejunum | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| Liver
Hepatocellular Adenoma | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | X | + | + |
| Mesentery | | + | | | | | | | | | | + | | | | | | | | | | | |
| Pancreas | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| Salivary Glands | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| Stomach, Forestomach | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| Stomach, Glandular | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |

CARDIOVASCULAR SYSTEM

| | | | | | | | | | | | | | | | | | | | | | | | |
|--------------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Blood Vessel | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
|--------------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|

* .. Total animals with tissue examined microscopically; Total animals with tumor
 + .. Tissue examined microscopically
 X .. Lesion present
 I .. Insufficient tissue

M .. Missing tissue
 A .. Autolysis precludes evaluation
 BLANK .. Not examined microscopically

Experiment Number: 20515 - 03
 Test Type: CHRONIC
 Route: RESPIRATORY EXPOSURE WHOLE BODY
 Species/Strain: RATS/Wistar Han

P17: NEOPLASMS BY INDIVIDUAL ANIMAL (SYSTEMIC LESIONS ABRIDGED)
 Metal working fluids (CIMSTAR 3800)
 CAS Number: CIMSTAR3800

Date Report Requested: 02/18/2014
 Time Report Requested: 12:32:34
 First Dose M/F: 04/14/08 / 04/14/08
 Lab: BNW

| WISTAR HAN RATS FEMALE | DAY ON TEST | | | | | | | | | | | | | | | | | | | | | | | | females
(cont...) |
|------------------------|-------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|----------------------|
| | 05333 | 05511 | 06602 | 06644 | 06666 | 06666 | 06666 | 06666 | 06666 | 06666 | 06666 | 06666 | 06666 | 06666 | 06666 | 06666 | 06666 | 06666 | 06666 | 06666 | 06666 | 06666 | 06666 | 06666 | |
| 30 mg/m3 | 00333 | 00551 | 00660 | 00664 | 00666 | 00666 | 00666 | 00666 | 00666 | 00666 | 00666 | 00666 | 00666 | 00666 | 00666 | 00666 | 00666 | 00666 | 00666 | 00666 | 00666 | 00666 | 00666 | 00666 | |
| | 00555 | 00555 | 00555 | 00555 | 00555 | 00555 | 00555 | 00555 | 00555 | 00555 | 00555 | 00555 | 00555 | 00555 | 00555 | 00555 | 00555 | 00555 | 00555 | 00555 | 00555 | 00555 | 00555 | 00555 | |
| | 00331 | 00333 | 00332 | 00335 | 00330 | 00330 | 00333 | 00331 | 00334 | 00330 | 00333 | 00330 | 00332 | 00330 | 00331 | 00331 | 00331 | 00331 | 00332 | 00332 | 00333 | 00334 | 00334 | 00336 | |

Granulosa Cell Tumor Benign

| | | | | | | | | | | | | | | | | | | | | | | | |
|-----------------------------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Uterus | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| Fibroma | | | | | | | | | | | | | | | | | | | | | | | X |
| Leiomyoma | | | | | | | | | | | | | | | | | | | | | | | X |
| Polyp Stromal | | | | | | | X | | | | | | | | | | | | | | | | |
| Endometrium, Adenocarcinoma | | | | | | | X | | | | | | | | | | | | | | | | |

HEMATOPOIETIC SYSTEM

| | | | | | | | | | | | | | | | | | | | | | | | |
|--|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Bone Marrow | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| Lymph Node | | | | | | | | | + | | | | | | | | | | | | | | |
| Lymph Node, Bronchial | + | + | + | + | + | M | + | M | + | + | M | + | + | M | M | M | + | + | + | + | + | + | M |
| Lymph Node, Mandibular | + | + | M | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | M | + |
| Lymph Node, Mediastinal | + | + | M | + | + | + | + | + | + | M | + | + | + | + | + | + | + | + | + | + | + | + | + |
| Lymph Node, Mesenteric Hemangiosarcoma | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| Spleen | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| Thymus | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| Thymoma Benign | | | | | | | | | | | | | | | X | X | | | | | | | X |

INTEGUMENTARY SYSTEM

| | | | | | | | | | | | | | | | | | | | | | | | |
|---------------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Mammary Gland | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| Adenoma | | | | | | | | | | | | | | | | | | | | | | | |
| Carcinoma | | | | | | | | | | | | | | | | | | | | | | | X |

* .. Total animals with tissue examined microscopically; Total animals with tumor
 + .. Tissue examined microscopically
 X .. Lesion present
 I .. Insufficient tissue

M .. Missing tissue
 A .. Autolysis precludes evaluation
 BLANK .. Not examined microscopically

Experiment Number: 20515 - 03
 Test Type: CHRONIC
 Route: RESPIRATORY EXPOSURE WHOLE BODY
 Species/Strain: RATS/Wistar Han

P17: NEOPLASMS BY INDIVIDUAL ANIMAL (SYSTEMIC LESIONS ABRIDGED)
 Metal working fluids (CIMSTAR 3800)
 CAS Number: CIMSTAR3800

Date Report Requested: 02/18/2014
 Time Report Requested: 12:32:34
 First Dose M/F: 04/14/08 / 04/14/08
 Lab: BNW

| WISTAR HAN RATS FEMALE | DAY ON TEST | | | | | | | | | | | | | | | | | | | | | | | | * TOTALS |
|------------------------|-------------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|----------|
| | 0732 | 0733 | 0732 | 0733 | 0733 | 0733 | 0733 | 0733 | 0733 | 0733 | 0733 | 0733 | 0733 | 0733 | 0733 | 0733 | 0733 | 0733 | 0733 | 0733 | 0733 | 0733 | 0733 | 0733 | |
| 30 mg/m3 | 0050 | 0050 | 0050 | 0051 | 0051 | 0052 | 0052 | 0052 | 0052 | 0052 | 0052 | 0052 | 0052 | 0052 | 0052 | 0052 | 0052 | 0052 | 0052 | 0052 | 0052 | 0052 | 0052 | 0052 | |
| ANIMAL ID | 15 | 15 | 18 | 11 | 12 | 11 | 15 | 16 | 17 | 14 | 19 | 11 | 14 | 15 | 15 | 18 | 19 | 00 | 08 | 02 | 08 | 01 | 05 | 06 | |

ALIMENTARY SYSTEM

| | | | | | | | | | | | | | | | | | | | | | | | | |
|---------------------------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|----|
| Esophagus | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 |
| Intestine Large, Cecum | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 |
| Intestine Large, Colon | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 |
| Intestine Large, Rectum | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | I | + | I | I | + | + | + | 47 |
| Intestine Small, Duodenum | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 |
| Intestine Small, Ileum | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 |
| Intestine Small, Jejunum | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 |
| Liver | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 |
| Hepatocellular Adenoma | | | | | | | | | | | | | | | | | | | | | | | | 1 |
| Mesentery | | + | | | + | + | + | | | | + | | | | | | | | | | | | | 8 |
| Pancreas | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 |
| Salivary Glands | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 |
| Stomach, Forestomach | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 |
| Stomach, Glandular | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 |

CARDIOVASCULAR SYSTEM

| | | | | | | | | | | | | | | | | | | | | | | | | |
|--------------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|----|
| Blood Vessel | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 |
|--------------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|----|

* .. Total animals with tissue examined microscopically; Total animals with tumor
 + .. Tissue examined microscopically
 X .. Lesion present
 I .. Insufficient tissue

M .. Missing tissue
 A .. Autolysis precludes evaluation
 BLANK .. Not examined microscopically

Experiment Number: 20515 - 03
 Test Type: CHRONIC
 Route: RESPIRATORY EXPOSURE WHOLE BODY
 Species/Strain: RATS/Wistar Han

P17: NEOPLASMS BY INDIVIDUAL ANIMAL (SYSTEMIC LESIONS ABRIDGED)
 Metal working fluids (CIMSTAR 3800)
 CAS Number: CIMSTAR3800

Date Report Requested: 02/18/2014
 Time Report Requested: 12:32:34
 First Dose M/F: 04/14/08 / 04/14/08
 Lab: BNW

| WISTAR HAN RATS FEMALE | DAY ON TEST | | | | | | | | | | | | | | | | | | | | | | | | * TOTALS |
|------------------------|-------------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|----------|
| | 0732 | 0733 | 0732 | 0733 | 0733 | 0733 | 0733 | 0733 | 0733 | 0733 | 0733 | 0733 | 0733 | 0733 | 0733 | 0733 | 0733 | 0733 | 0733 | 0733 | 0733 | 0733 | 0733 | 0733 | |
| 30 mg/m3 | 0050 | 0050 | 0050 | 0051 | 0052 | 0051 | 0055 | 0056 | 0057 | 0054 | 0059 | 0051 | 0054 | 0055 | 0058 | 0059 | 0050 | 0058 | 0052 | 0058 | 0051 | 0055 | 0056 | 0050 | |

| | | | | | | | | | | | | | | | | | | | | | | | | | |
|---------------------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|----|
| Heart | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 |
| Chemodectoma Benign | | | | | | | | | | | | | | | | | | | | | | | | | 1 |
| Hemangioma | | | | | | | X | | | | | | | | | | | | | | | | | | 1 |

ENDOCRINE SYSTEM

| | | | | | | | | | | | | | | | | | | | | | | | | | |
|--------------------------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|----|
| Adrenal Cortex | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 |
| Adenoma | | | | X | | | | | | | | | | | | | | | | | | | | | 2 |
| Adrenal Medulla | + | + | + | M | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 49 |
| Pheochromocytoma Benign | | | | | | | | | | | | | | | | | | | | | | | | | 1 |
| Islets, Pancreatic | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 |
| Parathyroid Gland | M | + | + | + | + | + | + | + | + | + | + | + | + | M | + | + | + | M | + | + | M | + | M | + | 40 |
| Pituitary Gland | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 |
| Pars Distalis, Adenoma | X | | X | X | X | | | | X | X | | X | | X | | X | X | X | X | X | X | X | X | X | 36 |
| Thyroid Gland | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 |
| C-cell, Adenoma | | | X | | | X | | | X | | | | | | X | | | | | | | | | | 4 |
| Follicular Cell, Adenoma | | | | | | X | X | | | | | | | | | | | | | | | | | | 3 |

GENERAL BODY SYSTEM

| | | | | | | | | | | | | | | | | | | | | | | | | | |
|------|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|
| NONE | | | | | | | | | | | | | | | | | | | | | | | | | |
|------|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|

GENITAL SYSTEM

| | | | | | | | | | | | | | | | | | | | | | | | | | |
|----------------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|----|
| Clitoral Gland | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 |
| Ovary | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 |

* .. Total animals with tissue examined microscopically; Total animals with tumor
 + .. Tissue examined microscopically
 X .. Lesion present
 I .. Insufficient tissue

M .. Missing tissue
 A .. Autolysis precludes evaluation
 BLANK .. Not examined microscopically

Experiment Number: 20515 - 03
 Test Type: CHRONIC
 Route: RESPIRATORY EXPOSURE WHOLE BODY
 Species/Strain: RATS/Wistar Han

P17: NEOPLASMS BY INDIVIDUAL ANIMAL (SYSTEMIC LESIONS ABRIDGED)
 Metal working fluids (CIMSTAR 3800)
 CAS Number: CIMSTAR3800

Date Report Requested: 02/18/2014
 Time Report Requested: 12:32:34
 First Dose M/F: 04/14/08 / 04/14/08
 Lab: BNW

| WISTAR HAN RATS FEMALE
30 mg/m3 | DAY ON TEST | | | | | | | | | | | | | | | | | | | | * TOTALS | | | | | |
|--|-------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|----------|-------|-------|-------|-------|---------|
| | 0732 | 0732 | 0732 | 0732 | 0732 | 0732 | 0732 | 0732 | 0732 | 0732 | 0732 | 0732 | 0732 | 0732 | 0732 | 0732 | 0732 | 0732 | 0732 | 0732 | | 0732 | 0732 | | | |
| ANIMAL ID | 00501 | 00505 | 00508 | 00501 | 00502 | 00501 | 00505 | 00506 | 00507 | 00504 | 00509 | 00501 | 00504 | 00505 | 00508 | 00509 | 00500 | 00508 | 00502 | 00508 | 00501 | 00505 | 00506 | 00500 | 00507 | |
| Granulosa Cell Tumor Benign | | | | | | | | | | | | | | | | | | | | | | | | | X | 1 |
| Uterus | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 |
| Fibroma | | | | | | | | | | | | | | | | | | | | | | | | | | 1 |
| Leiomyoma | | | | | | | | | | | | | | | | | | | | | | | | | | 1 |
| Polyp Stromal | | | | | | | | | | | | | | | X | | | | | | | | | X | | 3 |
| Endometrium, Adenocarcinoma | | | | | | | | | | | | | | | | | | | | | | | | | | 1 |
| HEMATOPOIETIC SYSTEM | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Bone Marrow | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 |
| Lymph Node | | | | | | | | | | | | | | | | | | | | | | | | | | 1 |
| Lymph Node, Bronchial | + | + | M | + | + | + | + | + | + | + | M | M | + | M | + | M | M | + | M | M | + | M | + | M | M | 32 |
| Lymph Node, Mandibular | + | + | M | + | + | + | + | + | + | + | I | + | + | + | + | + | M | + | + | + | + | + | + | M | M | 43 |
| Lymph Node, Mediastinal | + | M | + | + | + | + | + | + | M | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | M | 45 |
| Lymph Node, Mesenteric Hemangiosarcoma | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50
1 |
| Spleen | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 |
| Thymus | + | I | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 45 |
| Thymoma Benign | | | X | | | | | | | | X | | | | | | | | X | | | | X | | 7 | |
| INTEGUMENTARY SYSTEM | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Mammary Gland | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 |
| Adenoma | | | | | | | | | | | | | | | | | | | | | | | | | X | 1 |
| Carcinoma | | | | | | | | | X | X | | | | | | | | | | | | | | X | | 5 |

* .. Total animals with tissue examined microscopically; Total animals with tumor
 + .. Tissue examined microscopically
 X .. Lesion present
 I .. Insufficient tissue

M .. Missing tissue
 A .. Autolysis precludes evaluation
 BLANK .. Not examined microscopically

Experiment Number: 20515 - 03
 Test Type: CHRONIC
 Route: RESPIRATORY EXPOSURE WHOLE BODY
 Species/Strain: RATS/Wistar Han

P17: NEOPLASMS BY INDIVIDUAL ANIMAL (SYSTEMIC LESIONS ABRIDGED)
 Metal working fluids (CIMSTAR 3800)
 CAS Number: CIMSTAR3800

Date Report Requested: 02/18/2014
 Time Report Requested: 12:32:34
 First Dose M/F: 04/14/08 / 04/14/08
 Lab: BNW

| WISTAR HAN RATS FEMALE | DAY ON TEST | | | | | | | | | | | | | | | | | | | | * TOTALS | | |
|-------------------------------|-------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|----------|-------|---|
| | 0732 | 0732 | 0732 | 0732 | 0732 | 0732 | 0732 | 0732 | 0732 | 0732 | 0732 | 0732 | 0732 | 0732 | 0732 | 0732 | 0732 | 0732 | 0732 | 0732 | | 0732 | |
| 30 mg/m3 | ANIMAL ID | | | | | | | | | | | | | | | | | | | | * TOTALS | | |
| | 00501 | 00501 | 00501 | 00501 | 00501 | 00501 | 00501 | 00501 | 00501 | 00501 | 00501 | 00501 | 00501 | 00501 | 00501 | 00501 | 00501 | 00501 | 00501 | 00501 | | 00501 | |
| Carcinoma, Multiple | | | | X | | | | | | | | | | | | | | X | | | | 4 | |
| Fibroadenoma | | | | X | | X | | | X | | | | X | | | | | | X | | X | | 9 |
| Fibroadenoma, Multiple | | | | | | | | | | | | | X | | | | | | | | | 4 | |
| Skin | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 | |
| MUSCULOSKELETAL SYSTEM | | | | | | | | | | | | | | | | | | | | | | | |
| Bone | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 | |
| NERVOUS SYSTEM | | | | | | | | | | | | | | | | | | | | | | | |
| Brain | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 | |
| Peripheral Nerve | | | | | | | | | | | | | | | | | | | | | | 5 | |
| Spinal Cord | | | | | | | | | | | | | | | | | | | | | | 5 | |
| RESPIRATORY SYSTEM | | | | | | | | | | | | | | | | | | | | | | | |
| Larynx | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 | |
| Lung | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 | |
| Nose | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 | |
| Trachea | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 | |
| SPECIAL SENSES SYSTEM | | | | | | | | | | | | | | | | | | | | | | | |
| Eye | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 | |
| Harderian Gland | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 | |

* .. Total animals with tissue examined microscopically; Total animals with tumor
 + .. Tissue examined microscopically
 X .. Lesion present
 I .. Insufficient tissue

M .. Missing tissue
 A .. Autolysis precludes evaluation
 BLANK .. Not examined microscopically

Experiment Number: 20515 - 03
 Test Type: CHRONIC
 Route: RESPIRATORY EXPOSURE WHOLE BODY
 Species/Strain: RATS/Wistar Han

P17: NEOPLASMS BY INDIVIDUAL ANIMAL (SYSTEMIC LESIONS ABRIDGED)
 Metal working fluids (CIMSTAR 3800)
 CAS Number: CIMSTAR3800

Date Report Requested: 02/18/2014
 Time Report Requested: 12:32:34
 First Dose M/F: 04/14/08 / 04/14/08
 Lab: BNW

| WISTAR HAN RATS FEMALE | DAY ON TEST | | | | | | | | | | | | | | | | | | | | | | | | females
(cont...) |
|------------------------|-------------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|----------------------|
| | 0523 | 0586 | 0633 | 0633 | 0635 | 0669 | 0666 | 0666 | 0666 | 0666 | 0666 | 0666 | 0666 | 0666 | 0666 | 0666 | 0666 | 0666 | 0666 | 0666 | 0666 | 0666 | 0666 | 0666 | |
| 100 mg/m3 | 0070 | 0077 | 0077 | 0077 | 0077 | 0077 | 0077 | 0077 | 0077 | 0077 | 0077 | 0077 | 0077 | 0077 | 0077 | 0077 | 0077 | 0077 | 0077 | 0077 | 0077 | 0077 | 0077 | 0077 | |
| ANIMAL ID | 08 | 03 | 01 | 04 | 03 | 05 | 09 | 07 | 04 | 01 | 00 | 06 | 03 | 00 | 01 | 09 | 01 | 00 | 09 | 09 | 08 | 02 | 02 | 04 | |

ALIMENTARY SYSTEM

| | | | | | | | | | | | | | | | | | | | | | | | |
|------------------------------------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Esophagus | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| Intestine Large, Cecum | + | + | A | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| Intestine Large, Colon | + | + | A | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| Intestine Large, Rectum | + | + | A | + | + | + | + | + | + | + | + | + | + | + | + | I | + | + | + | + | I | + | + |
| Intestine Small, Duodenum | + | + | A | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| Intestine Small, Ileum | + | + | A | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| Intestine Small, Jejunum | + | + | A | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| Liver | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| Mesentery | | | | | | | | | | | + | | | | | | | | | | | | |
| Oral Mucosa | | | | | | | | | | | | | | | | | | | | | | | + |
| Pancreas | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| Adenocarcinoma, Metastatic, Uterus | | | | | | | | | | | | | | | | | | | | | | | |
| Salivary Glands | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| Stomach, Forestomach | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| Stomach, Glandular | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |

CARDIOVASCULAR SYSTEM

* .. Total animals with tissue examined microscopically; Total animals with tumor
 + .. Tissue examined microscopically
 X .. Lesion present
 I .. Insufficient tissue

M .. Missing tissue
 A .. Autolysis precludes evaluation
 BLANK .. Not examined microscopically

Experiment Number: 20515 - 03
 Test Type: CHRONIC
 Route: RESPIRATORY EXPOSURE WHOLE BODY
 Species/Strain: RATS/Wistar Han

P17: NEOPLASMS BY INDIVIDUAL ANIMAL (SYSTEMIC LESIONS ABRIDGED)
 Metal working fluids (CIMSTAR 3800)
 CAS Number: CIMSTAR3800

Date Report Requested: 02/18/2014
 Time Report Requested: 12:32:34
 First Dose M/F: 04/14/08 / 04/14/08
 Lab: BNW

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

| | | | | | | | | | | | | | | | | | | | | | | | | | |
|--------------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Blood Vessel | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| Heart | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |

ENDOCRINE SYSTEM

| | | | | | | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Adrenal Cortex
Adenoma | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| Adrenal Medulla | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| Islets, Pancreatic | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| Parathyroid Gland | + | + | + | + | + | M | + | + | + | M | + | + | + | M | + | + | + | M | + | + | + | + | + | + | |
| Pituitary Gland
Pars Distalis, Adenoma
Pars Intermedia, Adenoma | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| Thyroid Gland
C-cell, Adenoma
C-cell, Carcinoma
Follicular Cell, Adenoma | + | + | A | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |

GENERAL BODY SYSTEM

NONE

GENITAL SYSTEM

| | | | | | | | | | | | | | | | | | | | | | | | | | |
|----------------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Clitoral Gland | + | + | + | + | + | + | + | + | + | + | + | + | + | M | + | + | + | + | + | + | + | + | + | + | + |
| Ovary | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |

* .. Total animals with tissue examined microscopically; Total animals with tumor
 + .. Tissue examined microscopically
 X .. Lesion present
 I .. Insufficient tissue
 M .. Missing tissue
 A .. Autolysis precludes evaluation
 BLANK .. Not examined microscopically

Experiment Number: 20515 - 03
 Test Type: CHRONIC
 Route: RESPIRATORY EXPOSURE WHOLE BODY
 Species/Strain: RATS/Wistar Han

P17: NEOPLASMS BY INDIVIDUAL ANIMAL (SYSTEMIC LESIONS ABRIDGED)
 Metal working fluids (CIMSTAR 3800)
 CAS Number: CIMSTAR3800

Date Report Requested: 02/18/2014
 Time Report Requested: 12:32:34
 First Dose M/F: 04/14/08 / 04/14/08
 Lab: BNW

| WISTAR HAN RATS FEMALE | DAY ON TEST | | | | | | | | | | | | | | | | | | | | | | | | females
(cont...) |
|------------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|--|----------------------|
| | 0
5
2
3 | 0
5
8
6 | 0
6
3
0 | 0
6
3
3 | 0
6
3
5 | 0
6
3
9 | 0
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7 | 0
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9 | 0
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2
2 | 0
7
2
5 | 0
7
3
0 | 0
7
3
1 | 0
7
3
1 | 0
7
3
1 | | |
| 100 mg/m3 | 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 | | |
| | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | | |
| | 0 | 2 | 2 | 0 | 1 | 2 | 3 | 0 | 2 | 3 | 3 | 1 | 0 | 1 | 0 | 0 | 4 | 5 | 1 | 2 | 2 | 0 | 1 | | |
| | 8 | 3 | 1 | 4 | 3 | 5 | 9 | 7 | 4 | 1 | 0 | 6 | 3 | 0 | 1 | 9 | 1 | 0 | 9 | 9 | 8 | 2 | 4 | | |

Granulosa Cell Tumor Malignant

X

Uterus

+ +

Polyp Stromal

X

Polyp Stromal, Multiple

X

Sarcoma Stromal, Multiple

X

Endometrium, Adenocarcinoma

Endometrium, Malignant Mixed Mullerian Tumor

Vagina

Polyp

HEMATOPOIETIC SYSTEM

Bone Marrow

+ +

Lymph Node, Bronchial

+ + + M + + + M + + M M M + M + + + + + + + + M M

Lymph Node, Mandibular

+ +

Lymph Node, Mediastinal

+ + + + + + + + M + + + + + + + + + + + + + + +

Lymph Node, Mesenteric

+ +

Spleen

+ +

Thymus

Thymoma Benign

+ M + +
 X X

INTEGUMENTARY SYSTEM

Mammary Gland

+ +

* .. Total animals with tissue examined microscopically; Total animals with tumor
 + .. Tissue examined microscopically
 X .. Lesion present
 I .. Insufficient tissue

M .. Missing tissue
 A .. Autolysis precludes evaluation
 BLANK .. Not examined microscopically

Experiment Number: 20515 - 03
 Test Type: CHRONIC
 Route: RESPIRATORY EXPOSURE WHOLE BODY
 Species/Strain: RATS/Wistar Han

P17: NEOPLASMS BY INDIVIDUAL ANIMAL (SYSTEMIC LESIONS ABRIDGED)
 Metal working fluids (CIMSTAR 3800)
 CAS Number: CIMSTAR3800

Date Report Requested: 02/18/2014
 Time Report Requested: 12:32:34
 First Dose M/F: 04/14/08 / 04/14/08
 Lab: BNW

| WISTAR HAN RATS FEMALE | DAY ON TEST | | | | | | | | | | | | | | | | | | | | | | | | females
(cont...) | |
|------------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|--|
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| 100 mg/m3 | 0
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4 | 0
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7
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2 | |
| ANIMAL ID | | | | | | | | | | | | | | | | | | | | | | | | | | |

Adenoma
 Carcinoma X
 Carcinoma, Multiple X
 Fibroadenoma X X X
 Fibroadenoma, Multiple X X X

Skin +
 Keratoacanthoma X
 Squamous Cell Papilloma X
 Subcutaneous Tissue, Lipoma X

MUSCULOSKELETAL SYSTEM

Bone +

NERVOUS SYSTEM

Brain +
 Granular Cell Tumor Benign
 Granular Cell Tumor Malignant X
 Oligodendroglioma Malignant X
 Peripheral Nerve + + + + +
 Spinal Cord + + + + +

RESPIRATORY SYSTEM

Larynx +
 Lung +
 Alveolar/Bronchiolar Adenoma

* .. Total animals with tissue examined microscopically; Total animals with tumor
 + .. Tissue examined microscopically
 X .. Lesion present
 I .. Insufficient tissue

M .. Missing tissue
 A .. Autolysis precludes evaluation
 BLANK .. Not examined microscopically

Experiment Number: 20515 - 03
 Test Type: CHRONIC
 Route: RESPIRATORY EXPOSURE WHOLE BODY
 Species/Strain: RATS/Wistar Han

P17: NEOPLASMS BY INDIVIDUAL ANIMAL (SYSTEMIC LESIONS ABRIDGED)
 Metal working fluids (CIMSTAR 3800)
 CAS Number: CIMSTAR3800

Date Report Requested: 02/18/2014
 Time Report Requested: 12:32:34
 First Dose M/F: 04/14/08 / 04/14/08
 Lab: BNW

| WISTAR HAN RATS FEMALE
100 mg/m3 | DAY ON TEST | | | | | | | | | | | | | | | | | | | | | | | | females
(cont...) | |
|-------------------------------------|-------------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|----------------------|--|
| | 0523 | 0586 | 0633 | 0663 | 0665 | 0666 | 0666 | 0666 | 0666 | 0666 | 0666 | 0666 | 0666 | 0666 | 0666 | 0666 | 0666 | 0666 | 0666 | 0666 | 0666 | 0666 | 0666 | 0666 | | |
| ANIMAL ID | 007088 | 007088 | 007088 | 007088 | 007088 | 007088 | 007088 | 007088 | 007088 | 007088 | 007088 | 007088 | 007088 | 007088 | 007088 | 007088 | 007088 | 007088 | 007088 | 007088 | 007088 | 007088 | 007088 | 007088 | | |
| Nose | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | | |
| Trachea | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | | |
| SPECIAL SENSES SYSTEM | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Eye | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | | |
| Harderian Gland | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | | |
| Zymbal's Gland | | | | | | | | | | | | | | | | | | | | | | | | + | | |
| URINARY SYSTEM | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Kidney | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | | |
| Urinary Bladder | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | | |
| SYSTEMIC LESIONS | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Multiple Organ | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | | |

* .. Total animals with tissue examined microscopically; Total animals with tumor
 + .. Tissue examined microscopically
 X .. Lesion present
 I .. Insufficient tissue

M .. Missing tissue
 A .. Autolysis precludes evaluation
 BLANK .. Not examined microscopically

Experiment Number: 20515 - 03
 Test Type: CHRONIC
 Route: RESPIRATORY EXPOSURE WHOLE BODY
 Species/Strain: RATS/Wistar Han

P17: NEOPLASMS BY INDIVIDUAL ANIMAL (SYSTEMIC LESIONS ABRIDGED)
 Metal working fluids (CIMSTAR 3800)
 CAS Number: CIMSTAR3800

Date Report Requested: 02/18/2014
 Time Report Requested: 12:32:34
 First Dose M/F: 04/14/08 / 04/14/08
 Lab: BNW

| WISTAR HAN RATS FEMALE
100 mg/m3 | DAY ON TEST | | | | | | | | | | | | | | | | | | | | | | | | | * TOTALS |
|-------------------------------------|-------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|---------|----------|
| | 0731 | 0731 | 0731 | 0731 | 0731 | 0731 | 0731 | 0731 | 0731 | 0731 | 0731 | 0731 | 0731 | 0731 | 0731 | 0731 | 0731 | 0731 | 0731 | 0731 | 0731 | 0731 | 0731 | 0731 | 0731 | |
| ANIMAL ID | 00732 | 00732 | 00732 | 00732 | 00732 | 00732 | 00732 | 00732 | 00732 | 00732 | 00732 | 00732 | 00732 | 00732 | 00732 | 00732 | 00732 | 00732 | 00732 | 00732 | 00732 | 00732 | 00732 | 00732 | 00732 | |
| Blood Vessel | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 | |
| Heart | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 | |
| ENDOCRINE SYSTEM | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Adrenal Cortex
Adenoma | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50
1 | |
| Adrenal Medulla | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | M | + | + | + | + | + | + | + | 49 | |
| Islets, Pancreatic | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 | |
| Parathyroid Gland | M | + | + | + | + | + | I | + | + | + | M | + | + | + | + | + | + | + | + | + | + | M | + | + | 42 | |
| Pituitary Gland | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 | |
| Pars Distalis, Adenoma | | | | | | X | X | | | | X | X | | X | X | X | X | X | | | X | X | X | 30 | | |
| Pars Intermedia, Adenoma | | | | | X | | | | X | | | | | | | | | | | | | | | 2 | | |
| Thyroid Gland | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 49 | | |
| C-cell, Adenoma | | | | | | | | | | | | | | | | | | | | | | X | | 4 | | |
| C-cell, Carcinoma | | | | | | | | | | | | | | X | | | | | | | | | X | 3 | | |
| Follicular Cell, Adenoma | X | | | | | | | | | | | | | | | | | | | | | | | 1 | | |
| GENERAL BODY SYSTEM | | | | | | | | | | | | | | | | | | | | | | | | | | |
| NONE | | | | | | | | | | | | | | | | | | | | | | | | | | |
| GENITAL SYSTEM | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Clitoral Gland | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 49 | | |
| Ovary | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 | | |

* .. Total animals with tissue examined microscopically; Total animals with tumor
 + .. Tissue examined microscopically
 X .. Lesion present
 I .. Insufficient tissue

M .. Missing tissue
 A .. Autolysis precludes evaluation
 BLANK .. Not examined microscopically

Experiment Number: 20515 - 03
 Test Type: CHRONIC
 Route: RESPIRATORY EXPOSURE WHOLE BODY
 Species/Strain: RATS/Wistar Han

P17: NEOPLASMS BY INDIVIDUAL ANIMAL (SYSTEMIC LESIONS ABRIDGED)
 Metal working fluids (CIMSTAR 3800)
 CAS Number: CIMSTAR3800

Date Report Requested: 02/18/2014
 Time Report Requested: 12:32:34
 First Dose M/F: 04/14/08 / 04/14/08
 Lab: BNW

| WISTAR HAN RATS FEMALE
100 mg/m3 | DAY ON TEST | | | | | | | | | | | | | | | | | | | | | | | | * TOTALS |
|-------------------------------------|-------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|----------|
| | 0731 | 0731 | 0731 | 0731 | 0731 | 0731 | 0731 | 0731 | 0731 | 0731 | 0731 | 0731 | 0731 | 0731 | 0731 | 0731 | 0731 | 0731 | 0731 | 0731 | 0731 | 0731 | 0731 | 0731 | |
| ANIMAL ID | 00732 | 00734 | 00734 | 00734 | 00735 | 00737 | 00738 | 00735 | 00736 | 00735 | 00737 | 00736 | 00733 | 00736 | 00734 | 00739 | 00731 | 00738 | 00730 | 00737 | 00734 | 00735 | 00737 | 00738 | 00736 |

| | | | | | | | | | | | | | | | | | | | | | | | | | |
|--|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|----|
| Granulosa Cell Tumor Malignant | | | | | | | | | | | | | | | | | | | | | | | | | 1 |
| Uterus | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 |
| Polyp Stromal | | | | | | | | X | | | | | | | | | | | | | | | X | | 3 |
| Polyp Stromal, Multiple | | | | | | | | | | | | | | | | | | | | | | | | | 1 |
| Sarcoma Stromal, Multiple | | | | | | | | | | | | | | | | | | | | | | | | | 1 |
| Endometrium, Adenocarcinoma | | | | | | | | | | | | | | | X | | | | | | | | X | | 2 |
| Endometrium, Malignant Mixed Mullerian Tumor | | X | | | | | | | | | | | | | | | | | | | | | | | 1 |
| Vagina | | + | | | | | | | | | | | | | | | | | | | | | | | 1 |
| Polyp | | X | | | | | | | | | | | | | | | | | | | | | | | 1 |

HEMATOPOIETIC SYSTEM

| | | | | | | | | | | | | | | | | | | | | | | | | | |
|-------------------------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|----|
| Bone Marrow | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 |
| Lymph Node, Bronchial | + | M | M | + | M | + | + | + | M | M | + | + | + | + | + | + | + | + | + | M | + | + | M | + | 35 |
| Lymph Node, Mandibular | + | + | + | + | + | + | M | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 49 |
| Lymph Node, Mediastinal | + | + | + | I | + | + | + | + | + | + | + | + | + | + | + | M | + | + | + | + | + | + | + | + | 47 |
| Lymph Node, Mesenteric | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 |
| Spleen | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 |
| Thymus | + | I | + | I | M | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | M | + | 45 |
| Thymoma Benign | | | | | | | | X | | | | | | | | | | | | | | | | | 3 |

INTEGUMENTARY SYSTEM

| | | | | | | | | | | | | | | | | | | | | | | | | | |
|---------------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|----|
| Mammary Gland | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 |
|---------------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|----|

* .. Total animals with tissue examined microscopically; Total animals with tumor
 + .. Tissue examined microscopically
 X .. Lesion present
 I .. Insufficient tissue

M .. Missing tissue
 A .. Autolysis precludes evaluation
 BLANK .. Not examined microscopically

Experiment Number: 20515 - 03
 Test Type: CHRONIC
 Route: RESPIRATORY EXPOSURE WHOLE BODY
 Species/Strain: RATS/Wistar Han

P17: NEOPLASMS BY INDIVIDUAL ANIMAL (SYSTEMIC LESIONS ABRIDGED)
 Metal working fluids (CIMSTAR 3800)
 CAS Number: CIMSTAR3800

Date Report Requested: 02/18/2014
 Time Report Requested: 12:32:34
 First Dose M/F: 04/14/08 / 04/14/08
 Lab: BNW

| WISTAR HAN RATS FEMALE
100 mg/m3 | DAY ON TEST | | | | | | | | | | | | | | | | | | | | | | | | * TOTALS | | |
|-------------------------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|----|---|
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| ANIMAL ID | 0
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3 | | |
| Adenoma | | | | | | | | | | | | X | | | | | | | | | | | | | | 1 | |
| Carcinoma | | | | | | | | | | | | | | | | | | | | | | | | | X | | 3 |
| Carcinoma, Multiple | | | | | | | | | | | | | | | | | | | | | | | | | | 1 | |
| Fibroadenoma | | | | | | | | | | | | X | | | X | | | | | | | | | | | 8 | |
| Fibroadenoma, Multiple | | | | | | | | | | | | X | X | | | | | | | | | | | | | 2 | |
| Skin | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 | |
| Keratoacanthoma | | | | | | | | | | | | | | | | | | | | | | | | | | 1 | |
| Squamous Cell Papilloma | | | | | X | | | | | | | X | | | | | | | | | | | | | | 3 | |
| Subcutaneous Tissue, Lipoma | | | | | | | | | | | | | | | | | | | | | | | | | | 1 | |
| MUSCULOSKELETAL SYSTEM | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Bone | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 | |
| NERVOUS SYSTEM | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Brain | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 | |
| Granular Cell Tumor Benign | | | | | | | | | | | | | | | | | | | | | | | | X | | 1 | |
| Granular Cell Tumor Malignant | | | | | | | | | | | X | | | | | | | | | | | | | | | 2 | |
| Oligodendroglioma Malignant | | | | | | | | | | | | | | | | | | | | | | | | | | 1 | |
| Peripheral Nerve | | | | | | | | | | | | | | | | | | | | | | | | | | 6 | |
| Spinal Cord | | | | | | | | | | | | | | | | | | | | | | | | | | 6 | |
| RESPIRATORY SYSTEM | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Larynx | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 | |
| Lung | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 | |
| Alveolar/Bronchiolar Adenoma | | | | | | | | | | | | | | | | | | | | | | | | X | | 1 | |

* .. Total animals with tissue examined microscopically; Total animals with tumor
 + .. Tissue examined microscopically
 X .. Lesion present
 I .. Insufficient tissue

M .. Missing tissue
 A .. Autolysis precludes evaluation
 BLANK .. Not examined microscopically

