

Animals used under § 7 (2) of the Animal Protection Act by species

1. Animals used by species

Table 1: In total animals used by species (excludes re-use)

Animal Species	Number of Animals	%
Mice	1.350.727	66,48%
Rats	250.968	12,35%
Guinea-Pigs	14.349	0,71%
Hamsters (Syrian)	1.217	0,06%
Hamsters (Chinese)	8	0,00%
Mongolian gerbil	4.154	0,20%
Other Rodents	9.950	0,49%
Rabbits	89.164	4,39%
Cats	431	0,02%
Dogs	1.720	0,08%
Ferrets	172	0,01%
Other carnivores	535	0,03%
Horses, donkeys & cross-breeds	1.013	0,05%
Pigs	16.130	0,79%
Goats	195	0,01%
Sheep	2.832	0,14%
Cattle	5.842	0,29%
Prosimians	12	0,00%
Marmoset and tamarins	207	0,01%
Cynomolgus monkey	2.387	0,12%
Rhesus monkey	67	0,00%
Baboons	14	0,00%
Squirrel monkey	1	0,00%
Other Mammals	1.259	0,06%
Domestic fowl	24.463	1,20%
Other birds	11.339	0,56%
Reptiles	351	0,02%
Rana	377	0,02%
Xenopus	3.405	0,17%
Other Amphibians	2.652	0,13%
Zebra fish	138.225	6,80%
Other Fish	97.644	4,81%
Total	2.031.810	100,00 %

Figure 1: Animals used by species groups (excludes re-use)

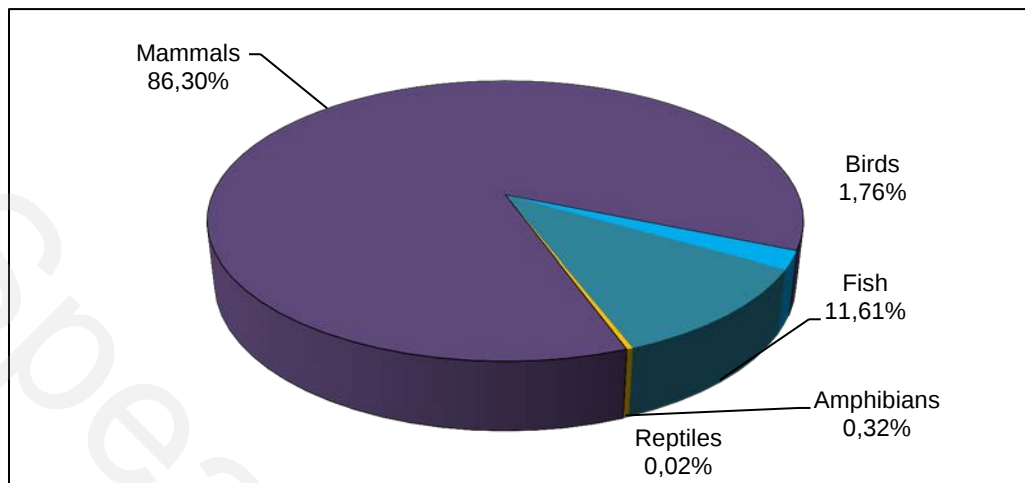


Table 2: Animals used by species groups (excludes re-use)

Species grouping Level 1	Number of Animals
Warm-blooded vertebrates	1.789.156
Cold-blooded vertebrates	242.654
Total	2.031.810

Species grouping Level 2	Number of Animals
Mammals	1.753.354
Birds	35.802
Fish	235.869
Amphibians	6.434
Reptiles	351
Total	2.031.810

Mammals	Number of Animals
Rodents	1.631.373
Rabbits	89.164
Carnivores	2.858
Equidae	1.013
Artiodactyla	24.999
Non-human primates	2.688
Other mammals	1.259
Total	1.753.354

Non-human primates	Number of Animals
Prosimians	12
New World Monkeys	208
Old World Monkeys	2.468
Total	2.688

2. Origin of used Animals

Table 3: Origin of used animals in total (excludes re-use)

	Animals born in				Total
	the EU at a registered breeder	the EU but not at a registered breeder	rest of Europe	rest of the world	
Mice	1.318.329	24.790	566	7.042	1.350.727
Rats	248.528	737	14	1.689	250.968
Guinea-Pigs	14.343	6			14.349
Hamsters (Syrian)	891			326	1.217
Hamsters (Chinese)	8				8
Mongolian gerbil	3.924	230			4.154
Other Rodents	593	9.353		4	9.950
Rabbits	88.460	645		59	89.164
Cats	221	141		69	431
Dogs	269	576		875	1.720
Ferrets	113	41		18	172
Other carnivores	489	39	7		535
Horses, donkeys & cross-breeds	259	754			1.013
Pigs	13.148	2.973		9	16.130
Goats	20	175			195
Sheep	1.736	1.096			2.832
Cattle	4.361	1.481			5.842
Prosimians	12				12
Marmoset and tamarins	165			42	207
Cynomolgus monkey	106			2.281	2.387

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Rhesus monkey	63			4	67
Baboons	14				14
Squirrel monkey				1	1
Other Mammals	192	1.050		17	1.259
Domestic fowl	16.347	8.116			24.463
Other birds	5.003	6.176		160	11.339
Reptiles	24	287		40	351
Rana		377			377
Xenopus	1.521	243	28	1.613	3.405
Other Amphibians	337	2.259		56	2.652
Zebra fish	120.692	17.533			138.225
Other Fish	60.310	21.743	14.512	1.079	97.644
Total	1.900.478	100.821	15.127	15.384	2.031.810

Table 4 – 6: Origin of used animals by species groups (excludes re-use)

Species grouping Level 1	Animals born in the EU at a registered breeder	Animals born in the EU but not at a registered breeder	Animals born in rest of Europe	Animals born in rest of the world	Total
Warm-blooded vertebrates	1.717.594	58.379	587	12.596	1.789.156
Cold-blooded vertebrates	182.884	42.442	14.540	2.788	242.654
Total	1.900.478	100.821	15.127	15.384	2.031.810

Species grouping Level 2	Animals born in the EU at a registered breeder	Animals born in the EU but not at a registered breeder	Animals born in rest of Europe	Animals born in rest of the world	Total
Mammals	1.696.244	44.087	587	12.436	1.753.354
Birds	21.350	14.292		160	35.802
Fish	181.002	39.276	14.512	1.079	235.869
Amphibians	1.858	2.879	28	1.669	6.434
Reptiles	24	287		40	351
Total	1.900.478	100.821	15.127	15.384	2.031.810

Mammals	Animals born in the EU at a registered breeder	Animals born in the EU but not at a registered breeder	Animals born in rest of Europe	Animals born in rest of the world	Total
Rodents	1.586.616	35.116	580	9.061	1.631.373
Rabbits	88.460	645		59	89.164
Carnivores	1.092	797	7	962	2.858
Equidae	259	754			1.013
Artiodactyla	19.265	5.725		9	24.999
Non-human primates	360			2.328	2.688
Other mammals	192	1.050		17	1.259
Total	1.696.244	44.087	587	12.436	1.753.354

3. Non-Human Primates by source and generation

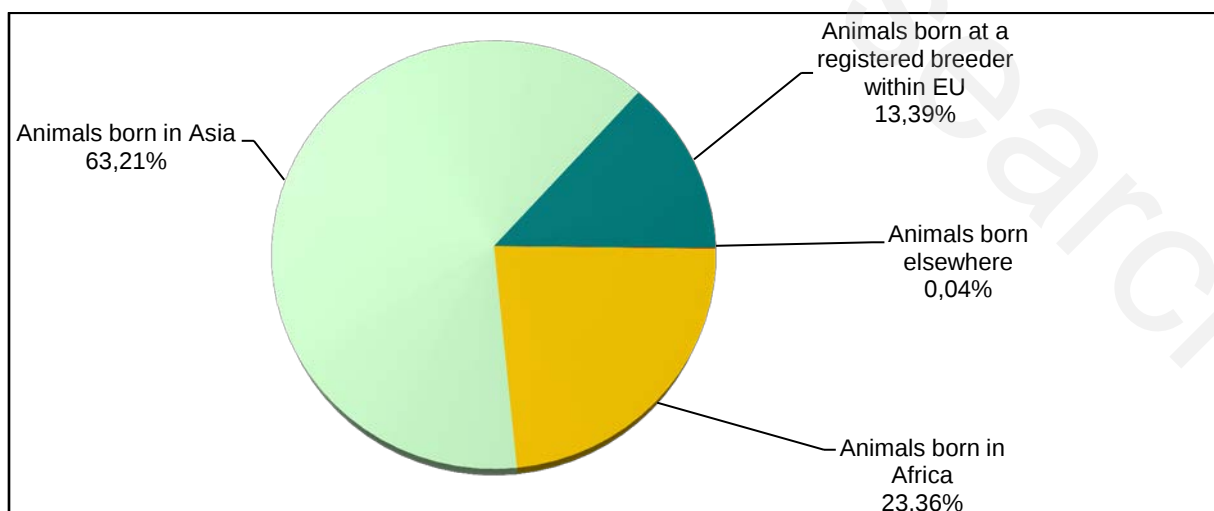
Table 7: Generation of non-human primates (excludes re-use)

NHP Generation	Number of Animals
F0	2
F1	338
F2 or greater	1.784
Self-sustaining colony	564
Total	2.688

Table 8: Origin of non-human primates (excludes re-use)

NHP Source (origin)	Number of Animals
Animals born at a registered breeder within EU	360
Animals born in rest of Europe	
Animals born in Asia	1699
Animals born in America	
Animals born in Africa	628
Animals born elsewhere	1
Total:	2.688

Figure 2: Origin of non-human primates (%) (excludes re-use)



4. Use of species in procedures by purposes

Table 9: Use of species in procedures by purposes

	Basic Research	Translational and applied research	Regulatory use and Routine production	Protection of the natural environment in the interests of the health or welfare of human beings or animals	Preservation of species	Higher education or training for the acquisition, maintenance or improvement of vocational skills	Maintenance of colonies of established genetically altered animals, not used in other procedures	Total
Mice	809.304	242.182	206.669	46	12.856	36.077	61.313	1.368.447
Rats	46.122	27.071	170.444			10.238	1.574	255.449
Guinea-Pigs	461	584	13.289			517		14.851
Hamsters (Syrian)	80	577	526			39		1.222
Hamsters (Chinese)	3					5		8
Mongolian gerbil	816	1.820	1.502		10	107		4.255
Other Rodents	1.326	162	8.449			13		9.950
Rabbits	1.627	974	89.782	2		276		92.661
Cats	46	189	441			42		718
Dogs	206	876	1.981			267		3.330
Ferrets	44	143				9		196
Other carnivores	10	12	513					535
Horses, donkeys & cross-breeds	294	755	103			57		1.209
Pigs	2.664	8.817	4.072	80	2	1.712		17.347
Goats	92	100	3			17		212
Sheep	317	1.764	736			236		3.053
Cattle	2.953	1.777	1.199			403		6.332

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Prosimians	87							87
Marmoset and tamarins	59	23	141			1		224
Cynomolgus monkey	35	304	2.662			1		3.002
Rhesus monkey	32	73	8			4		117
Vervets Chlorocebus spp.		15						15
Baboons		14						14
Squirrel monkey		1						1
Other species of Old World Monkeys (Cercopithecoidea)		12						12
Other Mammals	901	155	1		178	117		1.352
Domestic fowl	10.122	4.090	8.557	1.506	206	439		24.920
Other birds	8.555	2.114	280	742	135	174		12.000
Reptiles	263	18			70	18		369
Rana	286		91					377
Xenopus	4.053	25	128			340		4.546
Other Amphibians	386	336	59	1.626	243	2		2.652
Zebra fish	100.781	5.307	31.379	672		1.265	2.272	141.676
Other Fish	47.300	4.309	13.931	3.817	27.456	745	116	97.674
Total	1.039.225	304.599	556.946	8.491	41.156	53.121	65.275	2.068.813

Figure 3: Use of animals in procedures by purposes

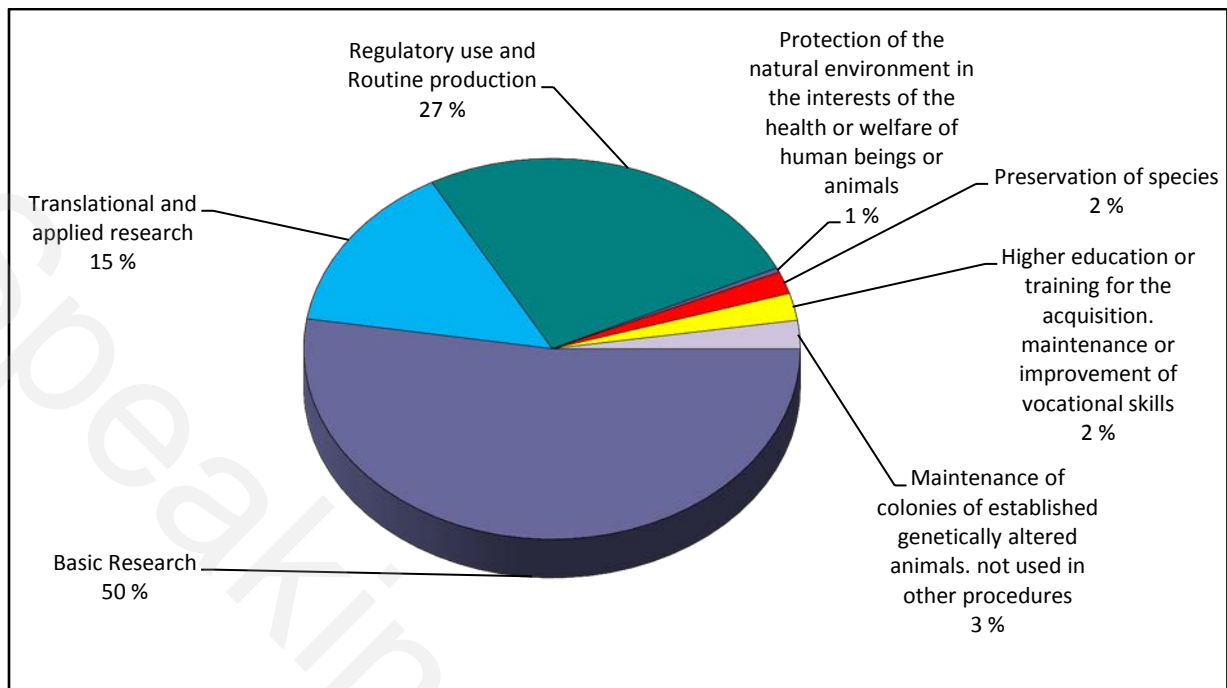


Table 10: Use of species in basic research purposes

	Oncology	Cardio-vascular Blood and Lymphatic System	Nervous System	Respiratory System	Gastrointestinal System including Liver	Musculoskeletal System	Immune System	Urogenital/ Reproductive System	Sensory Organs (skin, eyes and ears)	Endocrine System/ Metabolism	Multisystemic	Ethology / Animal Behaviour / Animal Biology	Other basic research	Total
Mice	90.036	69.460	169.859	22.243	28.153	19.541	183.208	15.699	18.720	47.875	50.452	2.436	91.622	809.304
Rats	490	12.918	18.493	1.065	914	1.285	4.177	894	1.495	1.979	822	470	1.120	46.122
Guinea-Pigs	54	66	10	26			4	3	243			30	25	461
Hamsters (Syrian)					80									80
Hamsters (Chinese)									3					3
Mongolian gerbil			426				227		163					816
Other Rodents	127		3	90					47	31		1.028		1.326
Rabbits	118	121	2			191	18	10	93	2	74	3	995	1.627
Cats			6							40				46
Dogs		1	9		20	14	9	8		6	14		125	206
Ferrets			44											44
Other carnivores													10	10
Horses, donkeys & cross-breeds						109	41	80		41	4	6	13	294
Pigs		513	75	147	146	209	433	60	10	17	661	194	199	2.664
Goats					2							12	78	92
Sheep		37	2	7	5	88	34	49			3	30	62	317

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Cattle		1	30		283	4	321	726	17	303	88	601	579	2.953
Prosimians												87		87
Marmoset and tamarins			7					12		24			16	59
Cynomolgus monkey			28				3			4				35
Rhesus monkey			25				3				4			32
Other Mammals			178		5			6	22		12	633	45	901
Domestic fowl			26		3.461	102	656	26	138	119	220	3.403	1.971	10.122
Other birds			262		18	2	52		1		10	7.702	508	8.555
Reptiles		9	133							43		3	75	263
Rana													286	286
Xenopus	5	66	1.555					164		5	183		2.075	4.053
Other Amphibians			95			243		20				26	2	386
Zebra fish	327	25.822	24.541			3.869	10.862	4.684	3.962	7.312	4.778	936	13.688	100.781
Other Fish	230	39	319	1			2.533	985	2.887	84	150	28.706	11.366	47.300
Total	91.387	109.053	216.128	23.579	33.087	25.657	202.581	23.426	27.801	57.885	57.475	46.306	124.860	1.039.225
%	8,79%	10,49%	20,80%	2,27%	3,18%	2,47%	19,49%	2,25%	2,68%	5,57%	5,53%	4,46%	12,01%	100,00%

Table 11: Use of species in translational and applied research purposes

	Human Cancer	Human Infectious Disorders	Human Cardiovascular Disorders	Human Nervous and Mental Disorders	Human Respiratory Disorders	Human Gastrointestinal Disorders including Liver	Human Musculoskeletal Disorders	Human Immune Disorders	Human Urogenital/Reproductive Disorders	Human Sensory Organ Disorders (skin, eyes and ears)	Human Endocrine/Metabolism Disorders	Other Human Disorders	Animal Diseases and Disorders	Animal Welfare	Diagnosis of diseases	Plant diseases	Non-regulatory toxicology and ecotoxicology	Total
Mice	123.862	15.684	10.917	27.176	11.770	12.051	2.468	11.031	4.036	4.169	10.188	761	3.918	87	1.485	55	2.524	242.182
Rats	1.492	128	3.098	10.857	1.356	2.187	1.302	533	679	960	1.831	330	390	212	17		1.699	27.071
Guinea-Pigs		108	152		86			12		184			28		14			584
Hamsters (Syrian)		380		197														577
Mongolian gerbil		1.242											578					1.820
Other Rodents		162																162
Rabbits	100	124	295	6	14		101			79			213		28	14		974
Cats													188		1			189
Dogs	5		17	116	43			56		28	16		525		64		6	876
Ferrets		80											63					143
Other carnivores														12				12
Horses, donkeys & cross-breeds						6		3					666		80			755
Pigs	114	18	415	81	74	1.654	44	16	6	24	79	130	2.549	3.408	201		4	8.817
Goats	6	18											47		29			100
Sheep	5	82	101	14	5		24		9			6	621	336	561			1.764

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Cattle	12												1.647	99	2		17	1.777
Marmoset and tamarins				23														23
Cynomolgus monkey	18	2	34	78	23			8	54	29	24						34	304
Rhesus monkey		73																73
Vervets Chlorocebus spp.		15																15
Baboons			14															14
Squirrel monkey		1																1
Other species of Old World Monkeys (Cercopithecoidea)		12																12
Other Mammals		134												21				155
Domestic fowl		99											2.713	1.272	6			4.090
Other birds		26											2.088					2.114
Reptiles													18					18
Xenopus				25														25
Other Amphibians													36				300	336
Zebra fish			1.880							1.027							2.400	5.307
Other Fish													1.080	824			2.405	4.309
Total	125.614	18.388	16.923	38.573	13.371	15.898	3.939	11.659	4.784	6.500	12.138	1.227	17.368	6.271	2.488	69	9.389	304.599
%	41,24%	6,04%	5,56%	12,66%	4,39%	5,22%	1,29%	3,83%	1,57%	2,13%	3,98%	0,40%	5,70%	2,06%	0,82%	0,02%	3,08%	100,00%

Table 12: Regulatory use of animals and routine production purposes

	Quality control (incl batch safety and potency testing)	Other efficacy and tolerance testing	Toxicity and other safety testing includ- ing pharma- cology	Routine production	Total
Mice	95.417	24.572	85.997	683	206.669
Rats	68.996	3.532	97.750	166	170.444
Guinea-Pigs	9.085		4.184	20	13.289
Hamsters (Syrian)	455		71		526
Mongolian gerbil			1.421	81	1.502
Other Rodents		60	8.389		8.449
Rabbits	8.242	201	8.353	72.986	89.782
Cats	24		407	10	441
Dogs		193	1.752	36	1.981
Ferrets					
Other carnivores	412		81	20	513
Horses, donkeys & cross-breeds		61	41	1	103
Pigs	420	1.848	1.785	19	4.072
Goats			2	1	3
Sheep	19	8	97	612	736
Cattle	248	200	347	404	1.199
Prosimians					
Marmoset and tamarins			141		141
Cynomolgus mon- key			2.593	69	2.662
Rhesus monkey	8				8
Other Mammals				1	1
Domestic fowl	4.763	2.316	1.267	211	8.557
Other birds			256	24	280
Rana			91		91
Xenopus			128		128
Other Amphibians			59		59
Zebra fish			31.379		31.379
Other Fish			13.882	49	13.931
Total	188.089	32.991	260.473	75.393	556.946
%	33,77%	5,92%	46,77%	13,54%	100,00%

Table 13: Use of animals in quality control purposes

	Batch safety testing	Pyrogenicity testing	Batch potency testing	Other quality controls	Total
Mice	11.343		84.074		95.417
Rats	312		68.684		68.996
Guinea-Pigs	2.249		6.836		9.085
Hamsters (Syrian)			455		455
Rabbits	199	5.591	635	1.817	8.242
Cats	24				24
Other carnivores	102		310		412
Pigs	362		58		420
Sheep				19	19
Cattle	28		220		248
Rhesus monkey				8	8
Domestic fowl	4.763				4.763
Total	19.382	5.591	161.272	1.844	188.089
%	10,30%	2,97%	85,74%	0,98%	100,00%

Table 14: Use of animals in routine production purposes

	Blood based products	Other product types	Total
Mice	267	32	299
Rats	144		144
Guinea-Pigs	16	4	20
Mongolian gerbil		81	81
Rabbits	71.920	1.055	72.975
Cats		10	10
Dogs		36	36
Horses, donkeys & cross-breeds		1	1
Pigs	2	17	19
Goats	1		1
Sheep	583	29	612
Cattle	357	47	404
Cynomolgus monkey		61	61
Other Mammals		1	1
Domestic fowl	145	66	211
Other birds	24		24
Other Fish		49	49
Total	73.459	1.489	74.948
%	98,01%	1,99%	100,00%

Table 15: Use of animals in toxicity and other safety testing by test type purposes

	Acute and sub-acute	Skin irritation/corrosion	Skin sensitisation	Repeated dose toxicity	Carcinogenicity	Genotoxicity	Reproductive toxicity	Developmental toxicity	Neurotoxicity	Kinetics	Pharmacodynamics	Ecotoxicity	Safety testing in food and feed area	Target animal safety	Eye irritation/corrosion	Other toxicity/safety testing	Total
Mice	3.247		4.782	4.538	971	1.492				17.513	51.711	165		531		1.047	85.997
Rats	3.890	165		12.035	990	2.030	21.043	20.404	86	12.140	24.177					790	97.750
Guinea-Pigs	4		3.915							67	198						4.184
Hamsters (Syrian)		3									68						71
Mongolian gerbil										66	1.355						1.421
Other Rodents												6.554		1.835			8.389
Rabbits	198	704	14	251			755	5.025		210	873				171	152	8.353
Cats										212	44			151			407
Dogs	51			560						638	470			24		9	1.752
Other carnivores														81			81
Horses, donkeys & cross-breeds										36	5						41
Pigs	2	12		89						266	292			525		599	1.785
Goats										2							2
Sheep														78		19	97
Cattle										77	26		46	198			347
Marmoset and tamarins				104						16						21	141
Cynomolgus monkey	24			1.559				264		539	31					176	2.593

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Domestic fowl												12	1.255				1.267
Other birds	62						128					66					256
Rana												91					91
Xenopus												128					128
Other Amphibians												59					59
Zebra fish	152							9.334				21.893					31.379
Other Fish	2.727							860				9.875	420				13.882
Total	10.357	884	8.711	19.136	1.961	3.522	21.926	35.887	86	31.782	79.250	38.843	1.721	3.423	171	2.813	260.473
%	3,98%	0,34%	3,34%	7,35%	0,75%	1,35%	8,42%	13,78%	0,03%	12,20%	30,43%	14,91%	0,66%	1,31%	0,07%	1,08%	100,00%

Table 16: Use of animals in repeated dose toxicity testing methods

	up to 28 days	29 - 90 days	> 90 days	Total
Mice	4.092	332	114	4.538
Rats	7.794	3.239	1.002	12.035
Rabbits	115	76	60	251
Dogs	410	74	76	560
Pigs	85		4	89
Marmoset and tamarins	101		3	104
Cynomolgus monkey	586	415	558	1.559
Total	13.183	4.136	1.817	19.136
%	68,89%	21,61%	9,50%	100,00%

Table 17: Use of animals in acute and subacute toxicity testing methods

	LD50. LC50	Other lethal methods	Non lethal methods	Total
Mice		14	3.233	3.247
Rats	1.301	168	2.421	3.890
Guinea-Pigs			4	4
Rabbits			198	198
Dogs			51	51
Pigs			2	2
Cynomolgus monkey			24	24
Other birds			62	62
Zebra fish	108		44	152
Other Fish	2.727			2.727
Total	4.136	182	6.039	10.357
%	39,93%	1,76%	58,31%	100,00%

Table 18: Use of animals in ecotoxicity testing methods

	Acute toxicity	Chronic toxicity	Reproductive ecotoxicity	Endocrine activity	Bioaccumulation	Other ecotoxicity	Total
Mice	165						165
Other Rodents						6.554	6.554
Domestic fowl	12						12
Other birds	27					39	66
Rana	91						91
Xenopus	128						128
Other Amphibians	59						59
Zebra fish	3.479	12.281	904	5.040	189		21.893
Other Fish	2.996	4.423		800	1.618	38	9.875
Total	6.957	16.704	904	5.840	1.807	6.631	38.843
%	17,91%	43,00%	2,33%	15,03%	4,65%	17,07%	100,00%

5. Use of species and severity

Table 19: Use of species and severity in total

	Non-recovery	%	Mild [up to and including]	%	Moderate	%	Severe	%	Total
Mice	125.538	9,17%	750.693	54,86%	409.193	29,90%	83.023	6,07%	1.368.447
Rats	24.567	9,62%	128.341	50,24%	97.299	38,09%	5.242	2,05%	255.449
Guinea-Pigs	179	1,21%	9.842	66,27%	936	6,30%	3.894	26,22%	14.851
Hamsters (Syrian)	28	2,29%	1.033	84,53%	148	12,11%	13	1,06%	1.222
Hamsters (Chinese)	5	62,50%	3	37,50%					8
Mongolian gerbil	162	3,81%	2.456	57,72%	1.584	37,23%	53	1,25%	4.255
Other Rodents	46	0,46%	9.798	98,47%	78	0,78%	28	0,28%	9.950
Rabbits	968	1,04%	89.076	96,13%	2.585	2,79%	32	0,03%	92.661
Cats	5	0,70%	621	86,49%	92	12,81%			718
Dogs	83	2,49%	2.973	89,28%	268	8,05%	6	0,18%	3.330
Ferrets			167	85,20%	24	12,24%	5	2,55%	196
Other carnivores			213	39,81%	322	60,19%			535
Horses, donkeys & cross-breeds	11	0,91%	1.176	97,27%	22	1,82%			1.209
Pigs	2.706	15,60%	11.858	68,36%	2.465	14,21%	318	1,83%	17.347
Goats			175	82,55%	35	16,51%	2	0,94%	212
Sheep	144	4,72%	2.088	68,39%	778	25,48%	43	1,41%	3.053
Cattle	2	0,03%	5.989	94,58%	332	5,24%	9	0,14%	6.332

Anlage 2 - Versuchstierdaten 2017

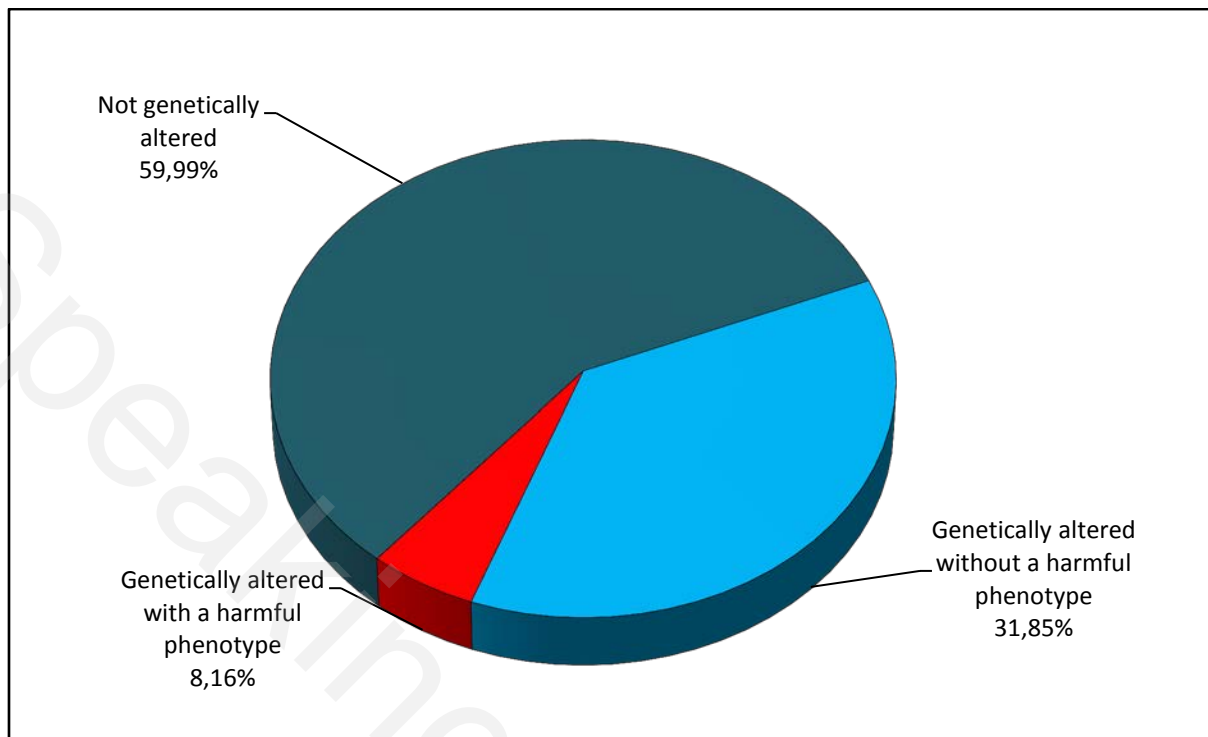
Prosimians			87	100,00%					87
Marmoset and tamarins	2	0,89%	75	33,48%	147	65,63%			224
Cynomolgus monkey	1	0,03%	1.502	50,03%	1.499	49,93%			3.002
Rhesus monkey	5	4,27%	42	35,90%	70	59,83%			117
Vervets Chlorocebus spp.			15	100,00%					15
Baboons			10	71,43%			4	28,57%	14
Squirrel monkey					1	100,00%			1
Other species of Old World Monkeys (Cercopithecoidea)			12	100,00%					12
Other Mammals	45	3,33%	1.130	83,58%	168	12,43%	9	0,67%	1.352
Domestic fowl	616	2,47%	22.180	89,00%	789	3,17%	1.335	5,36%	24.920
Other birds	146	1,22%	9.953	82,94%	1.799	14,99%	102	0,85%	12.000
Reptiles	65	17,62%	215	58,27%	89	24,12%			369
Rana			286	75,86%			91	24,14%	377
Xenopus	1.130	24,86%	3.022	66,48%	266	5,85%	128	2,82%	4.546
Other Amphibians	1.991	75,08%	586	22,10%	16	0,60%	59	2,22%	2.652
Zebra fish	7.452	5,26%	97.832	69,05%	21.469	15,15%	14.923	10,53%	141.676
Other Fish	12.198	12,49%	73.541	75,29%	6.147	6,29%	5.788	5,93%	97.674
Total	178.095		1.226.990		548.621		115.107		2.068.813

6. Use of species and genetic status

Table 20: Use of species and genetic status in total

	Not genetically altered	Genetically altered without a harmful phenotype	Genetically altered with a harmful phenotype	Total
Mice	648.768	562.364	157.315	1.368.447
Rats	242.072	7.668	5.709	255.449
Guinea-Pigs	14.851			14.851
Hamsters (Syrian)	1.035		187	1.222
Hamsters (Chinese)	8			8
Mongolian gerbil	4.255			4.255
Other Rodents	9.950			9.950
Rabbits	92.587	34	40	92.661
Cats	718			718
Dogs	3.330			3.330
Ferrets	196			196
Other carnivores	535			535
Horses, donkeys & cross-breeds	1.209			1.209
Pigs	17.002	223	122	17.347
Goats	212			212
Sheep	3.053			3.053
Cattle	6.332			6.332
Prosimians	87			87
Marmoset and tamarins	214	10		224
Cynomolgus monkey	3.002			3.002
Rhesus monkey	117			117
Vervets Chlorocebus spp.	15			15
Baboons	14			14
Squirrel monkey	1			1
Other species of Old World Monkeys (Cercopithecoidea)	12			12
Other Mammals	1.352			1.352
Domestic fowl	24.902	18		24.920
Other birds	12.000			12.000
Reptiles	369			369
Rana	377			377
Xenopus	4.531	15		4.546
Other Amphibians	2.419	233		2.652
Zebra fish	51.974	84.552	5.150	141.676
Other Fish	93.784	3.684	206	97.674
Total	1.241.283	658.801	168.729	2.068.813
%	59,99%	31,85%	8,16%	100,00%

Figure 4: Use of animals: genetic status



7. Use of Species and re-use

Table 21: Use of species and re-use in total

	(Naive) First use	Re-uses	Total
Mice	1.350.727	17.720	1.368.447
Rats	250.968	4.481	255.449
Guinea-Pigs	14.349	502	14.851
Hamsters (Syrian)	1.217	5	1.222
Hamsters (Chinese)	8		8
Mongolian gerbil	4.154	101	4.255
Other Rodents	9.950		9.950
Rabbits	89.164	3.497	92.661
Cats	431	287	718
Dogs	1.720	1.610	3.330
Ferrets	172	24	196
Other carnivores	535		535
Horses, donkeys & cross-breeds	1.013	196	1.209
Pigs	16.130	1.217	17.347
Goats	195	17	212
Sheep	2.832	221	3.053
Cattle	5.842	490	6.332
Prosimians	12	75	87
Marmoset and tamarins	207	17	224
Cynomolgus monkey	2.387	615	3.002
Rhesus monkey	67	50	117
Vervets Chlorocebus spp.		15	15
Baboons	14		14
Squirrel monkey	1		1
Other species of Old World Monkeys (Cercopithecoidea)		12	12
Other Mammals	1.259	93	1.352
Domestic fowl	24.463	457	24.920
Other birds	11.339	661	12.000
Reptiles	351	18	369
Rana	377		377
Xenopus	3.405	1.141	4.546
Other Amphibians	2.652		2.652
Zebra fish	138.225	3.451	141.676
Other Fish	97.644	30	97.674
Total uses	2.031.810	37.003	2.068.813

Figure 5: Use of species groups and re-use

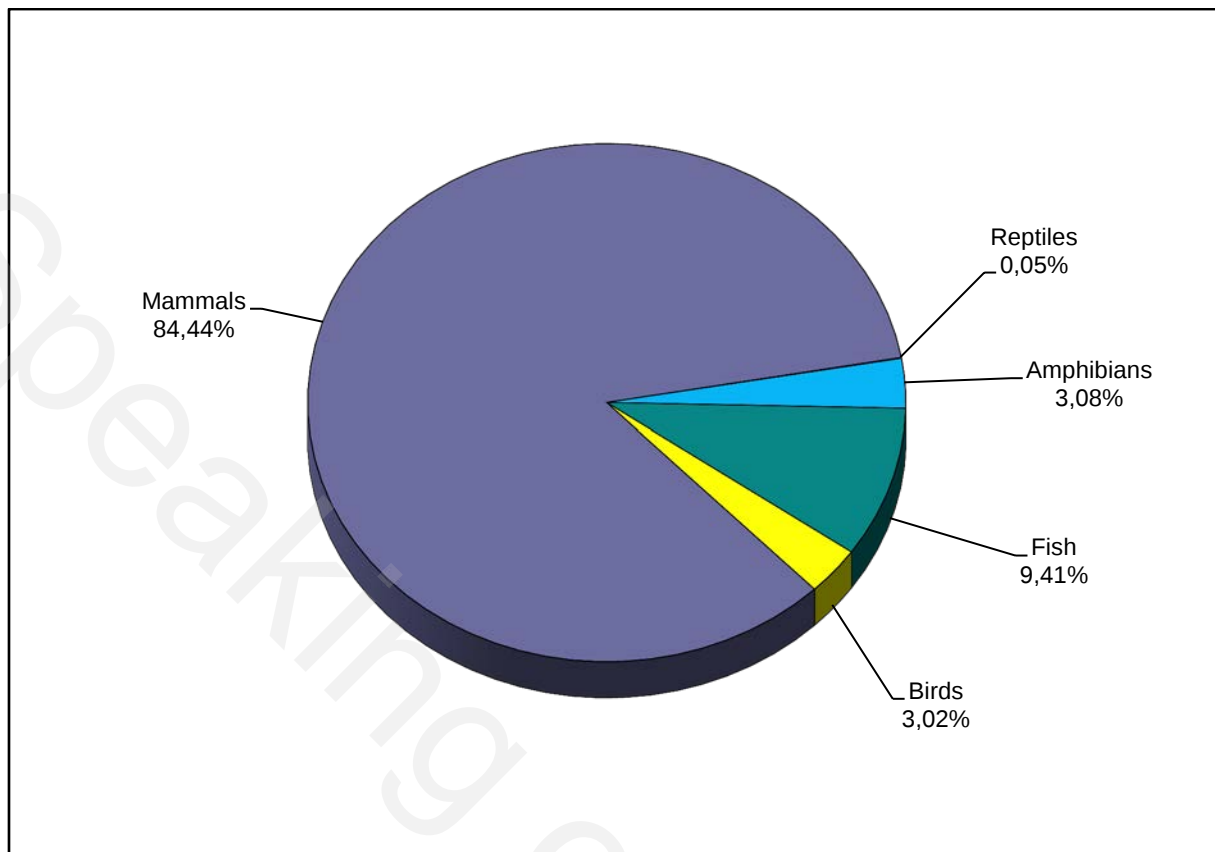
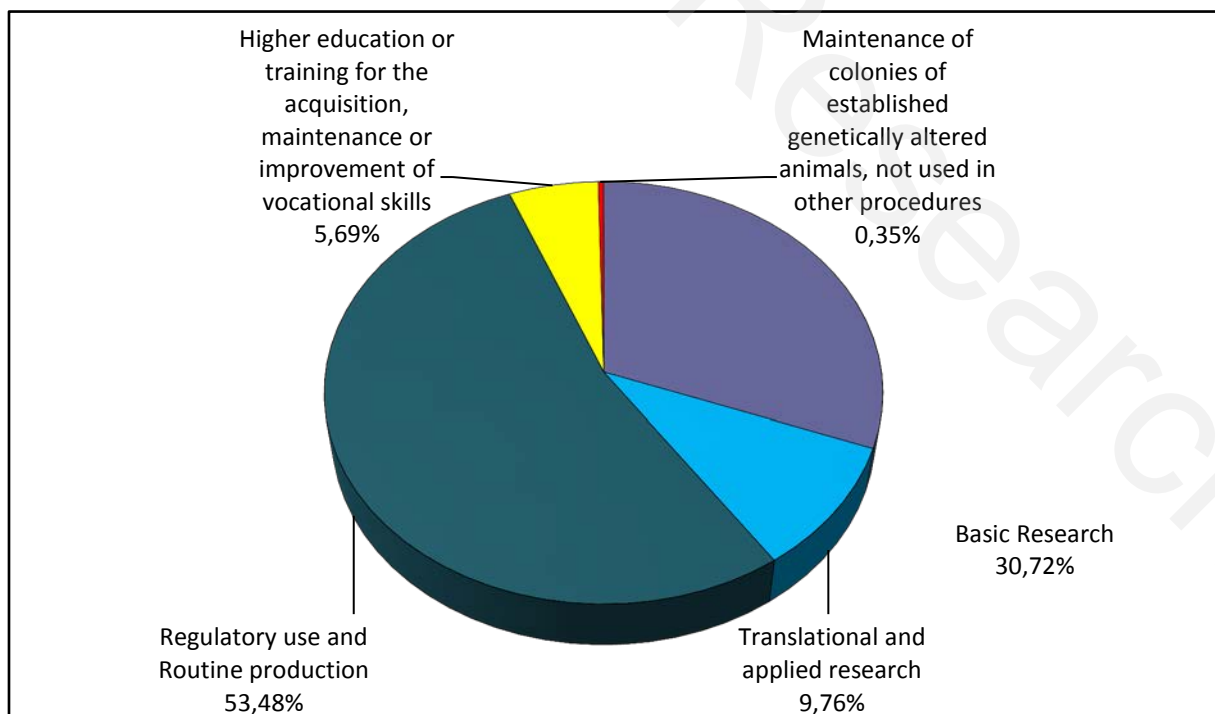


Figure 6: Primary purpose and re-use



8. Purposes and severity

Table 22: Purpose and severity

	Non-recovery	Mild [up to and including]	Moderate	Severe	Total
Basic Research	138.139	628.733	248.809	23.544	1.039.225
Translational and applied research	15.775	135.359	144.988	8.477	304.599
Regulatory use and Routine production	6.015	346.488	124.295	80.148	556.946
Protection of the natural environment in the interests of the health or welfare of human beings or animals	1.627	6.550	275	39	8.491
Preservation of species	2.245	37.302	1.609		41.156
Higher education or training for the acquisition, maintenance or improvement of vocational skills	14.027	30.082	8.908	104	53.121
Maintenance of colonies of established genetically altered animals, not used in other procedures	267	42.476	19.737	2.795	65.275
Total uses	178.095	1.226.990	548.621	115.107	2.068.813
%	8,61%	59,31%	26,52%	5,56%	100,00%

Table 23: Basic research purposes and severity

	Non-recovery	Mild [up to and including]	Moderate	Severe	Total
Oncology	9.379	36.958	41.634	3.416	91.387
Cardiovascular Blood and Lymphatic System	19.789	63.095	23.966	2.203	109.053
Nervous System	29.786	125.020	56.852	4.470	216.128
Respiratory System	4.782	13.351	5.126	320	23.579
Gastrointestinal System including Liver	7.513	15.384	9.499	691	33.087
Musculoskeletal System	5.937	13.046	6.492	182	25.657
Immune System	28.397	116.944	50.452	6.788	202.581
Urogenital/Reproductive System	3.211	16.547	3.476	192	23.426
Sensory Organs (skin, eyes and ears)	3.990	18.461	5.173	177	27.801
Endocrine System/Metabolism	4.182	41.813	11.565	325	57.885
Multisystemic	4.643	42.103	9.934	795	57.475
Ethology / Animal Behaviour / Animal Biology	1.463	41.717	3.052	74	46.306
Other basic research	15.067	84.294	21.588	3.911	124.860
Total uses	138.139	628.733	248.809	23.544	1.039.225
%	13,29%	60,50%	23,94%	2,27%	100,00%

Table 24: Basic research: species and severity

	Non-recovery	Mild [up to and including]	Moderate	Severe	Total
Mice	106.022	463.439	221.616	18.227	809.304
Rats	14.638	14.846	14.148	2.490	46.122
Guinea-Pigs	18	340	103		461
Hamsters (Syrian)		80			80
Hamsters (Chinese)		3			3
Mongolian gerbil	109	170	536	1	816
Other Rodents	2	1.242	74	8	1.326
Rabbits	24	1.130	473		1.627
Cats	5	40	1		46
Dogs	1	204	1		206
Ferrets		24	15	5	44
Other carnivores		10			10
Horses, donkeys & cross-breeds		293	1		294
Pigs	707	1.499	333	125	2.664
Goats		92			92
Sheep	38	126	152	1	317
Cattle		2.907	46		2.953
Prosimians		87			87
Marmoset and tamarins	2	21	36		59
Cynomolgus monkey	1	14	20		35
Rhesus monkey	5	9	18		32
Other Mammals	45	679	168	9	901
Domestic fowl	231	9.286	68	537	10.122
Other birds	2	6.766	1.689	98	8.555
Reptiles	47	127	89		263
Rana		286			286
Xenopus	873	2.922	258		4.053
Other Amphibians	95	277	14		386
Zebra fish	6.685	83.600	8.454	2.042	100.781
Other Fish	8.589	38.214	496	1	47.300
Total uses:	138.139	628.733	248.809	23.544	1.039.225

Table 25: Translational and applied research: purposes and severity

	Non-recovery	Mild [up to and including]	Moderate	Severe	Total
Human Cancer	1.314	38.467	84.462	1.371	125.614
Human Infectious Disorders	422	9.394	7.515	1.057	18.388
Human Cardiovascular Disorders	4.806	8.265	3.576	276	16.923
Human Nervous and Mental Disorders	1.851	21.973	13.798	951	38.573
Human Respiratory Disorders	1.795	7.239	3.494	843	13.371
Human Gastrointestinal Disorders including Liver	616	8.387	6.653	242	15.898
Human Musculoskeletal Disorders	83	948	2.614	294	3.939
Human Immune Disorders	2.032	4.767	3.523	1.337	11.659
Human Urogenital/Reproductive Disorders	16	2.071	2.687	10	4.784
Human Sensory Organ Disorders (skin, eyes and ears)	210	4.361	1.927	2	6.500
Human Endocrine/Metabolism Disorders	285	6.675	5.139	39	12.138
Other Human Disorders	309	292	625	1	1.227
Animal Diseases and Disorders	1.374	12.067	2.241	1.686	17.368
Animal Welfare		6.038	172	61	6.271
Diagnosis of diseases	12	1.194	1.024	258	2.488
Plant diseases		69			69
Non-regulatory toxicology and ecotoxicology	650	3.152	5.538	49	9.389
Total	15.775	135.359	144.988	8.477	304.599
%	5,18%	44,44%	47,60%	2,78%	100,00%

Table 26: Translational and applied research: species and severity

	Non-recovery	Mild [up to and including]	Moderate	Severe	Total
Mice	8.941	96.393	129.065	7.783	242.182
Rats	4.187	13.947	8.636	301	27.071
Guinea-Pigs	52	320	208	4	584
Hamsters (Syrian)		488	89		577
Mongolian gerbil		765	1.035	20	1.820
Other Rodents		162			162
Rabbits	231	239	502	2	974
Cats		145	44		189
Dogs		863	13		876
Ferrets		134	9		143
Other carnivores			12		12
Horses, donkeys & cross-breeds	11	743	1		755
Pigs	249	7.511	932	125	8.817
Goats		66	32	2	100
Sheep	59	1.159	512	34	1.764
Cattle	2	1.519	248	8	1.777
Marmoset and tamarins			23		23
Cynomolgus monkey		280	24		304
Rhesus monkey		21	52		73
Vervets Chlorocebus spp.		15			15
Baboons		10		4	14
Squirrel monkey			1		1
Other species of Old World Monkeys (Cercopithecoidea)		12			12
Other Mammals		155			155
Domestic fowl	189	3.262	445	194	4.090
Other birds	140	1.972	2		2.114
Reptiles	18				18
Xenopus		25			25
Other Amphibians	336				336
Zebra fish	400	2.507	2.400		5.307
Other Fish	960	2.646	703		4.309
Total uses:	15.775	135.359	144.988	8.477	304.599

Table 27: Regulatory use/routine production purposes and severity

	Non-recovery	Mild [up to and including]	Moderate	Severe	Total
Routine production	5	75.162	226		75.393
Quality control (incl batch safety and potency testing)		78.968	53.900	55.221	188.089
Other efficacy and tolerance testing	873	19.575	10.977	1.566	32.991
Toxicity and other safety testing including pharmacology	5.137	172.783	59.192	23.361	260.473
Total	6.015	346.488	124.295	80.148	556.946
%	1,08%	62,21%	22,32%	14,39%	100,00%

Table 28: Regulatory use/routine production: species and severity

	Non-recovery	Mild [up to and including]	Moderate	Severe	Total
Mice	1.711	118.425	31.550	54.983	206.669
Rats	2.672	93.115	73.067	1.590	170.444
Guinea-Pigs	77	8.699	623	3.890	13.289
Hamsters (Syrian)		459	54	13	526
Mongolian gerbil		1.464	6	32	1.502
Other Rodents	33	8.392	4	20	8.449
Rabbits	696	87.460	1.596	30	89.782
Cats		394	47		441
Dogs	82	1.639	254	6	1.981
Other carnivores		203	310		513
Horses, donkeys & cross-breeds		83	20		103
Pigs	556	2.319	1.137	60	4.072
Goats			3		3
Sheep		653	75	8	736
Cattle		1.160	38	1	1.199
Marmoset and tamarins		53	88		141
Cynomolgus monkey		1.207	1.455		2.662
Rhesus monkey		8			8
Other Mammals		1			1
Domestic fowl		7.691	262	604	8.557
Other birds		214	62	4	280
Rana				91	91
Xenopus				128	128
Other Amphibians				59	59
Zebra fish	188	7.732	10.578	12.881	31.379
Other Fish		5.117	3.066	5.748	13.931
Total uses:	6.015	346.488	124.295	80.148	556.946

Table 29: Quality control purposes and severity

	Non-recovery	Mild [up to and including]	Moderate	Severe	Total
Batch safety testing		19.092	269	21	19.382
Pyrogenicity testing		5.390	201		5.591
Batch potency testing		52.660	53.412	55.200	161.272
Other quality controls		1.826	18		1.844
Total	0	78.968	53.900	55.221	188.089
%	0,00%	41,98%	28,66%	29,36%	100,00%

Table 30: Routine production purposes and severity

	Non-recovery	Mild [up to and including]	Moderate	Severe	Total
Blood based products	5	73.415	39		73.459
Other product types		1.341	148		1.489
Total	5	74.756	187	0	74.948
%	0,01%	99,74%	0,25%	0,00%	100,00%

Table 31: Toxicity and other safer testing by test type purposes and severity

	Non-recovery	Mild [up to and including]	Moderate	Severe	Total
Acute and sub-acute		5.510	1.797	3.050	10.357
Skin irritation/corrosion		791	93		884
Skin sensitisation		7.934	776	1	8.711
Eye irritation/corrosion		56	115		171
Repeated dose toxicity		12.603	6.044	489	19.136
Carcinogenicity		800	1.131	30	1.961
Genotoxicity	6	3.230	208	78	3.522
Reproductive toxicity		20.072	1.843	11	21.926
Developmental toxicity		24.479	1.180	10.228	35.887
Neurotoxicity		86			86
Kinetics	220	25.244	6.030	288	31.782
Pharmaco-dynamics (incl safety pharmacology)	4.689	45.311	26.186	3.064	79.250
Ecotoxicity	221	19.062	13.444	6.116	38.843
Safety testing in food and feed area		1.721			1.721
Target animal safety		3.371	46	6	3.423
Other toxicity/safety testing	1	2.513	299		2.813
Total uses	5.137	172.783	59.192	23.361	260.473
%	1,97%	66,33%	22,72%	8,97%	100,00%

Table 32: Repeated dose toxicity testing methods and severity

	Non-recovery	Mild [up to and including]	Moderate	Severe	Total
up to 28 days		8.874	3.833	476	13.183
29 - 90 days		2.859	1.266	11	4.136
> 90 days		870	945	2	1.817
Total	0	12.603	6.044	489	19.136
%	0,00%	65,86%	31,58%	2,56%	100,00%

Table 33: Acute and subacute toxicity testing methods and severity

	Non-recovery	Mild [up to and including]	Moderate	Severe	Total
LD50. LC50		154	1.120	2.862	4.136
Other lethal methods		70	7	105	182
Non lethal methods		5.286	670	83	6.039
Total	0	5.510	1.797	3.050	10.357
%	0.00%	53,20%	17,35%	29,45%	100,00%

Table 34: Ecotoxicity testing methods and severity

	Non-recovery	Mild [up to and including]	Moderate	Severe	Total
Acute toxicity	188	1.985	104	4.680	6.957
Chronic toxicity		3.590	11.878	1.236	16.704
Reproductive ecotoxicity			904		904
Endocrine activity		5.640		200	5.840
Bioaccumulation		1.267	540		1.807
Other ecotoxicity	33	6.580	18		6.631
Total	221	19.062	13.444	6.116	38.843
%	0,57%	49,07%	34,61%	15,75%	100,00%

9. Purposes and testing by type of legislation

Table 35: Regulatory use and routine production purposes: type of legislation

	Quality control (incl batch safety and potency testing)	Other efficacy and tolerance testing	Toxicity and other safety testing including pharmacology	Routine production	Total
Legislation on medicinal products for human use	171.902	27.883	140.872	31.676	372.333
Legislation on medicinal products for veterinary use and their residues	15.833	2.399	5.373	36	23.641
Medical devices legislation	219	158	12.214	42.226	54.817
Industrial chemicals legislation			50.430	294	50.724
Plant protection product legislation			46.143	86	46.229
Biocides legislation		550	1.734	82	2.366
Food legislation including food contact material			14		14
Feed legislation including legislation for the safety of target animals, workers and environment	19	1.715	1.820		3.554
Other legislation	116	286	1.873	993	3.268
Total	188.089	32.991	260.473	75.393	556.946

Table 36: Quality control purposes: type of legislation

	Batch potency testing	Batch safety testing	Other quality controls	Pyrogenicity testing	Total
Legislation on medicinal products for human use	153.265	11.484	1.816	5.337	171.902
Legislation on medicinal products for veterinary use and their residues	7.892	7.989		43	15.833
Medical devices legislation			8	211	219
Feed legislation including legislation for the safety of target animals, workers and environment			19		19
Other legislation	115			1	116
Total	161.272	19.382	1.844	5.591	188.089

Table 37: Routine production purposes: type of legislation

	Blood based products	Monoclonal antibodies	Other product types	Total
Legislation on medicinal products for human use	31.507	25	144	31.676
Legislation on medicinal products for veterinary use and their residues	2	30	4	36
Medical devices legislation	41.950	95	181	42.226
Industrial product legislation		294		294
Plant protection product legislation			86	86
Biocides legislation			82	82
Other legislation		1	992	993
Total of uses:	73.459	445	1.498	75.393

Table 38: Toxicity and other safety testing by test type purposes: type of legislation

	Legislation on medicinal products for human use	Legislation on medicinal products for veterinary use and their residues	Medical devices legislation	Industrial chemicals legislation	Plant protection product legislation	Biocides legislation	Food legislation including food contact material	Feed legislation including legislation for the safety of target animals, workers and environment	Other legislation	Total
Acute and sub-acute	2.989	0	2.095	2.009	3.127	30	14	0	93	10.357
Skin irritation/corrosion	32	0	552	195	93	0		0	12	884
Skin sensitisation	314	0	5.269	2.663	465	0		0	0	8.711
Eye irritation/corrosion	0	0	13	95	63	0		0	0	171
Repeated dose toxicity	14.455	156	463	3.213	849	0		0	0	19.136
Carcinogenicity	1.074	0	0	0	880	0		0	7	1.961
Genotoxicity	1.299	0	116	1.280	827	0		0	0	3.522
Reproductive toxicity	1.717	0	0	17.118	3.091	0		0	0	21.926
Developmental toxicity	2.044	0	3.200	17.533	13.110	0		0	0	35.887
Neurotoxicity	0	0	33	0	86	0		0	0	119
Kinetics	30.123	1.053	40	44	529	0		0	0	31.789
Pharmaco-dynamics (incl safety pharmacology)	77.382	1.709	0	0	36	0		0	83	79.210
Ecotoxicity	7.810	223	219	6.280	21.152	1.704		145	1.310	38.843
Safety testing in food and feed area	0	46	0	0	0	0		1.675	0	1.721
Target animal safety	0	1.588	0	0	1.835	0		0	0	3.423
Other toxicity/safety testing	1.633	598	214	0	0	0		0	368	2.813
Total of uses:	140.872	5.373	12.214	50.430	46.143	1.734	14	1.820	1.873	260.473

Table 39: Repeated dose toxicity purposes: type of legislation

	up to 28 days	29 - 90 days	> 90 days	Total
Legislation on medicinal products for human use	10.490	2.248	1.717	14.455
Legislation on medicinal products for veterinary use and their residues	156			156
Medical devices legislation	24	439		463
Industrial chemicals legislation	1.824	1.289	100	3.213
Plant protection product legislation	689	160		849
Total	13.183	4.136	1.817	19.136

Table 40: Acute and subacute toxicity testing methods: type of legislation

	LD50. LC50	Other lethal methods	Non lethal methods	Total
Legislation on medicinal products for human use			2.989	2.989
Legislation on medicinal products for veterinary use and their residues				0
Medical devices legislation			2.095	2.095
Industrial chemicals legislation	1.319	6	684	2.009
Plant protection product legislation	2.787	162	178	3.127
Biocides legislation	30			30
Food legislation including food contact material			14	14
Other legislation			93	93
Total of uses:	4.136	168	6.053	10.357

Table 41: Ecotoxicity purposes: type of legislation

	Acute toxicity	Chronic toxicity	Reproductive ecotoxicity	Endocrine activity	Bioaccumulation	Other ecotoxicity	Total
Legislation on medicinal products for human use		7.562			248		7.810
Legislation on medicinal products for veterinary use and their residues	34				189		223
Medical devices legislation	219						219
Industrial chemicals legislation	1.328	3.440	904		608		6.280
Plant protection product legislation	4.071	4.058		5.840	576	6.607	21.152
Biocides legislation	60	1.644					1.704
Feed legislation including legislation for the safety of target animals, workers and environment	145						145
Other legislation	1.100				186	24	1.310
Total	6.957	16.704	904	5.840	1.807	6.631	38.843

10. Purposes and origin of legislative requirement

Table 42: Regulatory use and routine production: origin of legislative requirement

	Quality control (incl batch safety and potency testing)	Other efficacy and tolerance testing	Toxicity and other safety testing including pharmacology	Routine production	Total
Legislation satisfying EU requirements	180.648	32.628	257.193	73.381	543.850
Legislation satisfying national requirements only [within EU]	120	363	1.600	1.995	4.078
Legislation satisfying Non-EU requirements only	7.321		1.680	17	9.018
Total	188.089	32.991	260.473	75.393	556.946

Table 43: Toxicity and other safety testing: origin of legislative requirement

	Legislation satisfying EU requirements	Legislation satisfying national requirements only [within EU]	Legislation satisfying Non-EU requirements only	Total
Acute and sub-acute	10.183	107	67	10.357
Skin irritation/corrosion	236		648	884
Skin sensitisation	8.219		492	8.711
Eye irritation/corrosion	63		108	171
Repeated dose toxicity	19.096	40		19.136
Carcinogenicity	1.961			1.961
Genotoxicity	3.522			3.522
Reproductive toxicity	21.926			21.926
Developmental toxicity	35.887			35.887
Neurotoxicity	86			86
Kinetics	31.730	8	44	31.782
Pharmaco-dynamics (incl safety pharmacology)	78.784	160	306	79.250
Ecotoxicity	37.547	1.281	15	38.843
Safety testing in food and feed area	1.721			1.721
Target animal safety	3.423			3.423
Other toxicity/safety testing	2.809	4		2.813
Total	257.193	1.600	1.680	260.473

Table 44: Repeated dose toxicity: origin of legislative requirement

	up to 28 days	29 - 90 days	> 90 days	Total
Legislation satisfying EU requirements	13.143	4.136	1.817	19.096
Legislation satisfying national requirements only [within EU]	40			40
Total	13.183	4.136	1.817	19.136

Table 45: Acute and subacute toxicity testing: origin of legislative requirement

	LD50. LC50	Other lethal methods	Non lethal methods	Total
Legislation satisfying EU requirements	4.136	168	5.879	10.183
Legislation satisfying national requirements only [within EU]		14	93	107
Legislation satisfying Non-EU requirements only			67	67
Total	4.136	182	6.039	10.357

Table 46: Ecotoxicity testing: origin of legislative requirement

	Acute toxicity	Chronic toxicity	Endocrine activity	Reproductive ecotoxicity	Bioaccumulation	Other ecotoxicity	Total
Legislation satisfying EU requirements	5.685	16.704	5.840	904	1.807	6.607	37.547
Legislation satisfying national requirements only [within EU]	1.257					24	1.281
Legislation satisfying Non-EU requirements only	15						15
Total	6.957	16.704	5.840	904	1.807	6.631	38.843

Animals used under § 4 (3) of the Animal Protection Act by species

Animal Species	Number of Animals	%
Mice	594.890	80,56
Rats	60.948	8,25
Guinea-Pigs	604	0,08
Hamsters (Syrian)	59	0,01
Hamsters (Chinese)	13	0,00
Mongolian gerbil	1.399	0,19
Other Rodents	359	0,05
Rabbits	2.155	0,29
Dogs	4	0,00
Ferrets	24	0,00
Horses. donkeys & cross-breeds	16	0,00
Pigs	874	0,12
Goats	126	0,02
Sheep	31	0,01
Cattle	25	0,00
Marmoset and tamarins	25	0,00
Cynomolgus monkey	18	0,00
Rhesus monkey	10	0,00
Other Mammals	218	0,03
Domestic fowl	12.372	1,68
Other birds	682	0,09
Reptiles	159	0,02
Rana	16	0,00
Xenopus	2.035	0,28
Other Amphibians	739	0,10
Zebra fish	32.935	4,46
Other Fish	27.748	3,76
Total uses	738.484	100,00%