

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	1.516.931	72,30%
Rats	216.510	10,32%
Guinea-Pigs	13.946	0,66%
Hamsters (Syrian)	932	0,04%
Mongolian gerbil	3.283	0,16%
Other Rodents	2.895	0,14%
Rabbits	81.201	3,87%
Cats	556	0,03%
Dogs	2.108	0,10%
Ferrets	69	0,00%
Other carnivores	389	0,02%
Horses, donkeys & cross-breeds	431	0,02%
Pigs	17.624	0,84%
Goats	475	0,02%
Sheep	4.613	0,22%
Cattle	6.828	0,33%
Prosimians	11	0,00%
Marmoset and tamarins	198	0,01%
Cynomolgus monkey	2.314	0,11%
Rhesus monkey	51	0,00%
Baboons	10	0,00%
Squirrel monkey	25	0,00%
Other Mammals	1.423	0,07%
Domestic fowl	22.815	1,09%
Other birds	6.909	0,33%
Reptiles	146	0,01%
Rana	834	0,04%
Xenopus	1.464	0,07%
Other Amphibians	1.559	0,07%
Zebra fish	108.215	5,16%
Other Fish	83.410	3,98%
Cephlopods	59	0,00%
Total	2.098.234	100,00 %

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

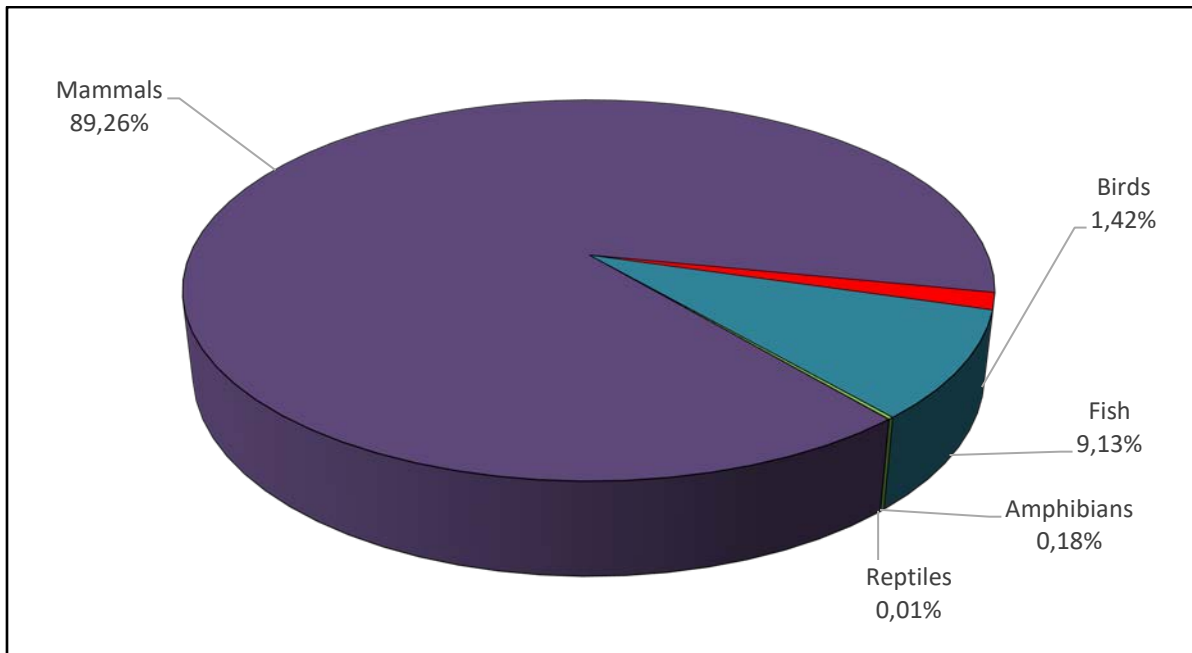


Table 2: Animals used by species groups (excludes re-use)

Species grouping Level 1	Number of Animals
Warm-blooded vertebrates	1.902.547
Invertebrates	59
Cold-blooded vertebrates	195.628
Total	2.098.234

Mammals	Number of Animals
Rodents	1.754.497
Rabbits	81.201
Carnivores	3.122
Equidae	431
Artiodactyla	29.540
Non-human primates	2.609
Other mammals	1.423
Total	1.872.823

Species grouping Level 2	Number of Animals
Mammals	1.872.823
Birds	29.724
Fish	191.625
Amphibians	3.857
Reptiles	146
Cephalopods	59
Total	2.098.234

Non-human primates	Number of Animals
Prosimians	11
New World Monkeys	223
Old World Monkeys	2.375
Total	2.609

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	1.473.690	9.640	22.935	10.666	1.516.931
Rats	214.939	357	28	1.186	216.510
Guinea-Pigs	13.869	77			13.946
Hamsters (Syrian)	772			160	932
Mongolian gerbil	3.047	236			3.283
Other Rodents	831	2.045		19	2.895
Rabbits	80.880	311		10	81.201
Cats	101	321		134	556
Dogs	178	953		977	2.108
Ferrets	22	34		13	69
Other carnivores	379	8	2		389
Horses, donkeys & cross-breeds	173	258			431
Pigs	10.889	6.723		12	17.624
Goats	63	412			475
Sheep	490	4.123			4.613
Cattle	5.625	1.203			6.828
Prosimians	11				11
Marmoset and tamarins	198				198
Cynomolgus monkey	100			2.214	2.314
Rhesus monkey	37			14	51

Versuchstierdaten 2018

Baboons	10				10
Squirrel monkey	25				25
Other Mammals	108	1.306		9	1.423
Domestic fowl	15.182	7.633			22.815
Other birds	1.381	5.334	93	101	6.909
Reptiles	64	36		46	146
Rana	5	829			834
Xenopus	542			922	1.464
Other Amphibians	856	703			1.559
Zebra fish	102.945	5.265	5		108.215
Other Fish	35.307	45.128	1.688	1.287	83.410
Cephalopods		59			59
Total	1.962.719	92.994	24.751	17.770	2.098.234

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	1.823.000	40.974	23.058	15.515	1.902.547
Cold-blooded vertebrates	139.719	51.961	1.693	2.255	195.628
Invertebrates		59			59
Total	1.962.719	92.994	24.751	17.770	2.098.234

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	1.806.437	28.007	22.965	15.414	1.872.823
Birds	16.563	12.967	93	101	29.724
Fish	138.252	50.393	1.693	1.287	191.625
Amphibians	1.403	1.532		922	3.857
Reptiles	64	36		46	146
Cephalopods		59			59
Total	1.962.719	92.994	24.751	17.770	2.098.234

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	1.707.148	12.355	22.963	12.031	1.754.497
Rabbits	80.880	311		10	81.201
Carnivores	680	1.316	2	1.124	3.122
Equidae	173	258			431
Artiodactyla	17.067	12.461		12	29.540
Non-human primates	381			2.228	2.609
Other mammals	108	1.306		9	1.423
Total	1.806.437	28.007	22.965	15.414	1.872.823

3. Non-Human Primates by source and generation

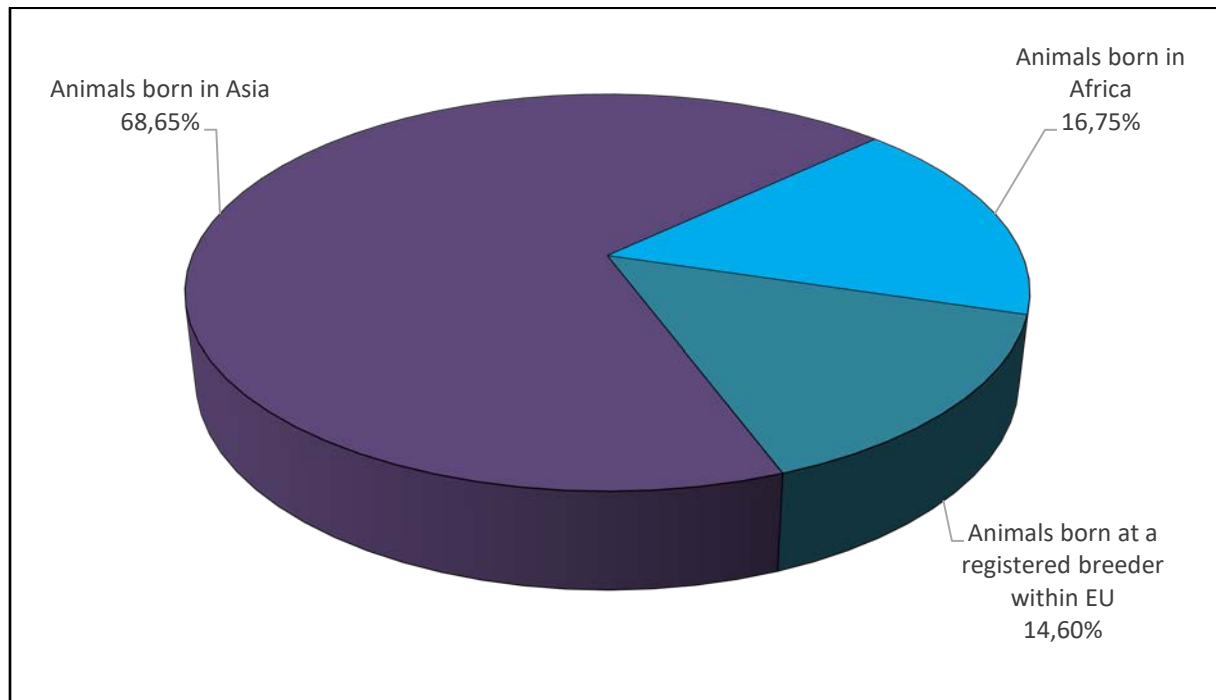
Table 7: Generation of non-human primates (excludes re-use)

NHP Generation	Number of Animals
F0	0
F1	217
F2 or greater	1.724
Self-sustaining colony	668
Total	2.609

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

NHP Source (origin)	Number of Animals
Animals born at a registered breeder within EU	381
Animals born in rest of Europe	0
Animals born in Asia	1.791
Animals born in America	0
Animals born in Africa	437
Animals born elsewhere	0
Total:	2.609

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	741.385	252.846	191.074		6.351	38.146	309.773	1.539.575
Rats	31.263	28.693	151.931			9.432	1.492	222.811
Guinea-Pigs	561	903	12.382			383		14.229
Hamsters (Syrian)	36	686	188			30		940
Mongolian gerbil	1.134	1.902	203			127		3.366
Other Rodents	2.502	352	40	38		10		2.942
Rabbits	839	1.164	82.925			265		85.193
Cats	98	352	263	8		44		765
Dogs	249	997	2.109			624		3.979
Ferrets	55	26				14		95
Other carnivores	2		387					389
Horses, donkeys & cross-breeds	493	222	7			70		792
Pigs	5.505	7.214	3.007	1.510	77	1.570		18.883
Goats		337	104			58		499
Sheep	222	3.358	887	106		178		4.751
Cattle	4.145	1.088	1.242	304		528		7.307
Prosimians	63							63

Versuchstierdaten 2018

Marmoset and tamarins	67	12	150						229
Cynomolgus monkey	19	251	2.605						2.875
Rhesus monkey	28	37							65
Vervets Chlorocebus spp.		14							14
Baboons		10							10
Squirrel monkey		25							25
Other species of Old World Monkeys (Cercopithecoidea)		7							7
Other Mammals	912	215	35	17	20	240			1.439
Domestic fowl	6.674	7.478	6.587	1.756		348	219		23.062
Other birds	5.868	679	290	127	108	259			7.331
Reptiles	113	28	5			6			152
Rana	810			19		5			834
Xenopus	2.205	25	60			144			2.434
Other Amphibians	491			26	651	391			1.559
Zebra fish	79.210	5.057	17.307	1.010		1.763	3.868		108.215
Other Fish	52.802	9.117	10.466	3.368	6.881	697	494		83.825
Cephalopods	5					54			59
Total	937.756	323.095	484.254	8.289	14.088	55.386	315.846		2.138.714

Figure 3: Use of animals in procedures by purposes

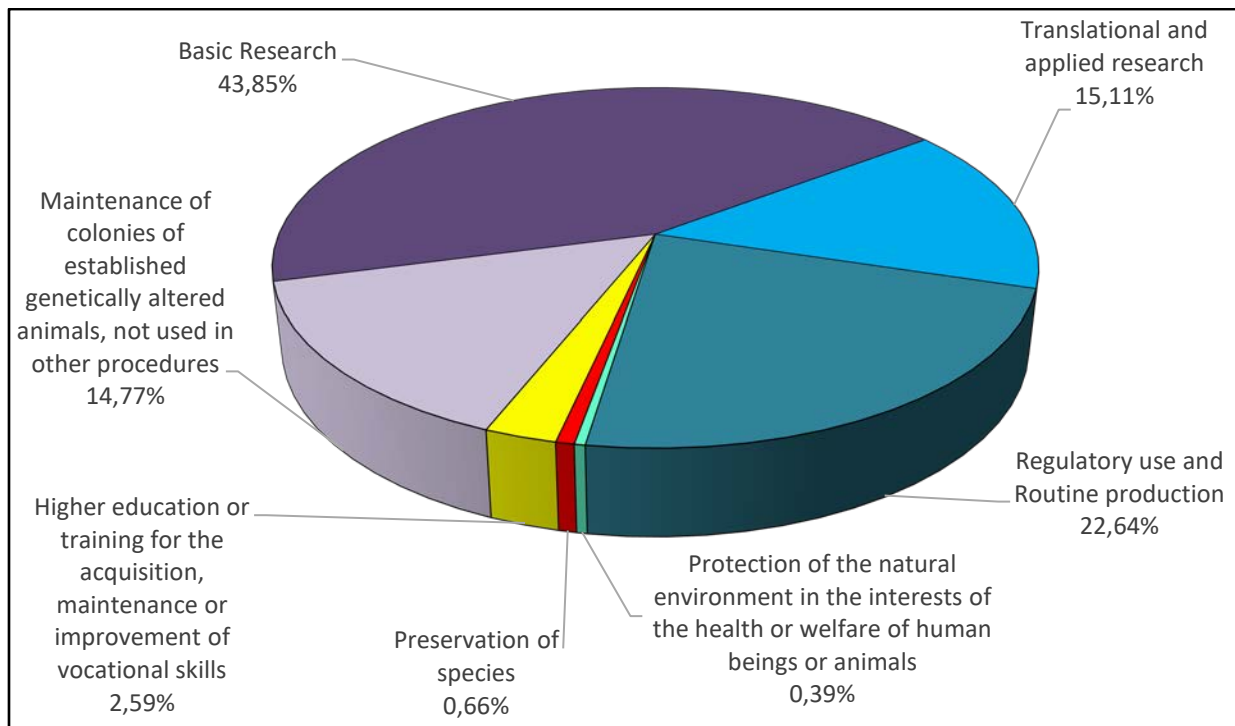


Table 10: Use of species in basic research purposes

	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	88.071	71.605	143.912	18.849	25.946	18.368	176.857	20.042	13.141	48.249	101.195	2.187	12.963	741.385
Rats	355	3.953	15.737	928	1.537	873	3.738	452	243	1.139	1.556	648	104	31.263
Guinea-Pigs	33		14	10				31	229	77	109	58		561
Hamsters (Syrian)			36											36
Mongolian gerbil			522		55		196		361					1.134
Other Rodents	81		72			5	108	96	31		81	2.028		2.502
Rabbits	7	120	3	15	4	46	13	2	194		429	1	5	839
Cats			3			39				44	12			98
Dogs	127			24	4			2		24	68			249
Ferrets			25								30			55
Other carnivores												2		2
Horses, donkeys & cross-breeds			80			42	24	261		42	36	8		493
Pigs	18	501	274	244	272	72	224	112		33	2.823	917	15	5.505
Sheep		35		3	69	40	8				16	51		222
Cattle			3		101		108	108		2.909	695	221		4.145
Prosimians												63		63
Marmoset and tamarins								10		12	45			67
Cynomolgus			7				1			1	10			19

Versuchstierdaten 2018

monkey														
Rhesus monkey			14				14							28
Other Mammals			93			3			6		15	795		912
Domestic fowl		105	35		3.356		87		205	1.122	511	1.253		6.674
Other birds			123						27			5.712	6	5.868
Reptiles			96	17										113
Rana												810		810
Xenopus	12	27	592	5			87		2	560	920			2.205
Other Amphibians			23			62				380	26			491
Zebra fish	435	17.701	25.564			4.365	3.301	6.173	5.680	7.014	5.095	3.810	72	79.210
Other Fish	275	390	209	5		553	643	58	3.326	11	369	46.929	34	52.802
Cephalopods			5											5
Total	89.414	94.437	187.442	20.100	31.344	24.468	185.322	27.434	23.443	60.679	114.035	66.439	13.199	937.756
%	9,53%	10,07%	19,99%	2,14%	3,34%	2,61%	19,76%	2,93%	2,50%	6,47%	12,16%	7,08%	1,41%	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	120.741	24.225	10.466	25.794	8.721	10.324	1.690	16.219	1.656	3.082	13.295	5.559	2.992	837	3.726		3.519	252.846
Rats	1.242	105	2.389	9.864	923	3.515	1.006	988	508	1.858	4.079	472	437		74		1.233	28.693
Guinea-Pigs		160	102		264			125		159	6	28	59					903
Hamsters (Syrian)			415	271														686
Mongolian gerbil		1.430											472					1.902
Other Rodents		321											31					352
Rabbits	77	109	274		16		144	13		121			181		139	18	72	1.164
Cats													352					352
Dogs	24		9	75	31			11		27	62	6	732				20	997
Ferrets		4											22					26
Horses, donkeys & cross-breeds													222					222
Pigs	26	87	330	59	110	174	290	33	12	8	252	97	5.107	272	355		2	7.214
Goats		77											243		17			337
Sheep		423	59		2		24					21	2.109		720			3.358
Cattle	27	6				1							828	220	6			1.088

Versuchstierdaten 2018

Marmoset and tamarins										12								12
Cynomolgus monkey	12		20	52	50					37	37	43						251
Rhesus monkey		26	4									7						37
Vervets Chlorocebus spp.		14																14
Baboons			10															10
Squirrel monkey		25																25
Other species of Old World Monkeys (Cercopithecoidea)		7																7
Other Mammals		18											103	94				215
Domestic fowl		76											5.451	1.908	43			7.478
Other birds		2											398	246	33			679
Reptiles													28					28
Xenopus				25														25
Zebra fish			3.080							873							1.104	5.057
Other Fish													3.784	2.160			3.173	9.117
Total	122.149	27.115	17.158	36.140	10.117	14.014	3.154	17.389	2.176	6.177	17.731	6.233	23.551	5.737	5.113	18	9.123	323.095
%	37,81%	8,39%	5,31%	11,19%	3,13%	4,34%	0,98%	5,38%	0,67%	1,91%	5,49%	1,93%	7,29%	1,78%	1,58%	0,01%	2,82%	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	98.114	13.903	76.049	3.008	191.074
Rats	67.781	375	83.166	609	151.931
Guinea-Pigs	9.569	10	2.738	65	12.382
Hamsters (Syrian)	160		28		188
Mongolian gerbil			125	78	203
Other Rodents		40			40
Rabbits	9.355	156	6.182	67.232	82.925
Cats	10	54	180	19	263
Dogs		186	1.889	34	2.109
Other carnivores	341	46			387
Horses, donkeys & cross-breeds			7		7
Pigs	147	1.863	985	12	3.007
Goats			58	46	104
Sheep	31		160	696	887
Cattle	432	46	400	364	1.242
Marmoset and tamarins			150		150
Cynomolgus mon- key			2.520	85	2.605
Other Mammals			34	1	35
Domestic fowl	3.004	977	1.538	1.068	6.587
Other birds			266	24	290
Reptiles			5	0	5
Xenopus			60		60
Zebra fish			17.307		17.307
Other Fish			10.118	348	10.466
Total	188.944	17.656	203.965	73.689	484.254
%	39,02%	3,65%	42,12%	15,22%	100,00%

Table 13: Use of animals in quality control purposes

	Batch safety testing	Pyrogenicity testing	Batch potency testing	Other quality controls	Total
Mice	6.521		91.593		98.114
Rats	466		67.315		67.781
Guinea-Pigs	1.936		7.633		9.569
Hamsters (Syrian)			160		160
Rabbits	250	6.291	1.715	1.099	9.355
Cats	10				10
Other carnivores	108		233		341
Pigs	142			5	147
Sheep	13			18	31
Cattle	50		382		432
Domestic fowl	2.853		151		3.004
Total	12.349	6.291	169.182	1.122	188.944
%	6,54%	3,33%	89,54%	0,59%	100,00%

Table 14: Use of animals in routine production purposes

	Blood based products	Other product types	Total
Mice	1.341	102	1.443
Rats	433	176	609
Guinea-Pigs	65		65
Mongolian gerbil		78	78
Rabbits	66.363	869	67.232
Cats	6	13	19
Dogs	16	18	34
Pigs		12	12
Goats	46		46
Sheep	677	19	696
Cattle	349	15	364
Cynomolgus monkey		85	85
Other Mammals		1	1
Domestic fowl	484	584	1.068
Other birds	24		24
Other Fish		348	348
Total	69.804	2.320	72.124
%	96,78%	3,22%	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	2.381		3.883	4.082	194	1.788				17.524	45.576			449		172	76.049
Rats	3.050	43		12.989	600	1.298	15.888	15.758	152	9.958	22.886					544	83.166
Guinea-Pigs	19		2.557	15						45	102						2.738
Hamsters (Syrian)		21	7														28
Mongolian gerbil											125						125
Rabbits	21	443	96	187			726	3.601		55	790			55	100	108	6.182
Cats										126				54			180
Dogs	66			769						667	356			27		4	1.889
Horses, donkeys & cross-breeds											7						7
Pigs		8	30	169						225	313		96	138		6	985
Goats										36				22			58
Sheep										80				80			160
Cattle										184				216			400
Marmoset and tamarins				124						26							150
Cynomolgus monkey				1.778				213		325	28					176	2.520
Other Mammals														34			34
Domestic fowl													1.538				1.538
Other birds	10											256					266
Reptiles														5			5
Xenopus												60					60

Versuchstierdaten 2018

Zebra fish	178							2.636				14.493					17.307
Other Fish	822							1.362		366		7.343	225				10.118
Total	6.547	515	6.573	20.113	794	3.086	16.614	23.570	152	29.617	70.183	22.152	1.859	1.080	100	1.010	203.965
%	3,21%	0,25%	3,22%	9,86%	0,39%	1,51%	8,15%	11,56%	0,07%	14,52%	34,41%	10,86%	0,91%	0,53%	0,05%	0,50%	100,00%

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

	up to 28 days	29 - 90 days	> 90 days	Total
Mice	4.002	80		4.082
Rats	7.800	3.353	1.836	12.989
Guinea-Pigs			15	15
Rabbits	175	12		187
Dogs	527	210	32	769
Pigs	93		76	169
Marmoset and tamarins	3	32	89	124
Cynomolgus monkey	412	570	796	1.778
Total	13.012	4.257	2.844	20.113
%	64,69%	21,17%	14,14%	100,00%

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

	LD50. LC50	Other lethal methods	Non lethal methods	Total
Mice		26	2.355	2.381
Rats	693	189	2.168	3.050
Guinea-Pigs			19	19
Rabbits			21	21
Dogs			66	66
Other birds			10	10
Zebra fish	116		62	178
Other Fish	822			822
Total	1.631	215	4.701	6.547
%	24,91%	3,28%	71,80%	100,00%

Table 18: Use of animals in ecotoxicity testing methods

	Acute toxicity	Chronic toxicity	Endocrine activity	Bioaccumulation	Other ecotoxicity	Total
Other birds	218	38				256
Xenopus			60			60
Zebra fish	7.014	6.710	370	399		14.493
Other Fish	3.200	875	360	2.868	40	7.343
Total	10.432	7.623	790	3.267	40	22.152
%	47,09%	34,41%	3,57%	14,75%	0,18%	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	87.796	5,70%	905.332	58,80%	439.664	28,56%	106.783	6,94%	1.539.575
Rats	11.673	5,24%	108.396	48,65%	97.667	43,83%	5.075	2,28%	222.811
Guinea-Pigs	313	2,20%	8.647	60,77%	797	5,60%	4.472	31,43%	14.229
Hamsters (Syrian)	18	1,91%	694	73,83%	228	24,26%			940
Mongolian gerbil	185	5,50%	1.299	38,59%	1.858	55,20%	24	0,71%	3.366
Other Rodents	146	4,96%	1.794	60,98%	963	32,73%	39	1,33%	2.942
Rabbits	25.822	30,31%	57.761	67,80%	1.522	1,79%	88	0,10%	85.193
Cats	2	0,26%	688	89,93%	75	9,80%			765
Dogs	78	1,96%	3.499	87,94%	389	9,78%	13	0,33%	3.979
Ferrets			74	77,89%	18	18,95%	3	3,16%	95
Other carnivores			110	28,28%	279	71,72%			389
Horses, donkeys & cross-breeds	15	1,89%	776	97,98%	1	0,13%			792
Pigs	2.375	12,58%	13.728	72,70%	2.516	13,32%	264	1,40%	18.883
Goats			444	88,98%	55	11,02%			499
Sheep	130	2,74%	3.729	78,49%	824	17,34%	68	1,43%	4.751
Cattle			7.025	96,14%	277	3,79%	5	0,07%	7.307
Prosimians			63	100,00%					63
Marmoset and tamarins			48	20,96%	181	79,04%			229
Cynomolgus monkey	3	0,10%	1.251	43,51%	1.621	56,38%			2.875
Rhesus monkey	2	3,08%	31	47,69%	32	49,23%			65

Versuchstierdaten 2018

Vervets Chlorocebus spp.			14	100,00%					14
Baboons							10	100,00%	10
Squirrel monkey			20	80,00%	4	16,00%	1	4,00%	25
Other species of Old World Monkeys (Cercopithecoidea)			7	100,00%					7
Other Mammals	23	1,60%	1.296	90,06%	108	7,51%	12	0,83%	1.439
Domestic fowl	216	0,94%	19.929	86,41%	2.808	12,18%	109	0,47%	23.062
Other birds	151	2,06%	6.254	85,31%	915	12,48%	11	0,15%	7.331
Reptiles	18	11,84%	38	25,00%	96	63,16%			152
Rana	5	0,60%	829	99,40%					834
Xenopus	140	5,75%	2.015	82,79%	279	11,46%			2.434
Other Amphibians	29	1,86%	1.203	77,16%	327	20,97%			1.559
Zebra fish	3.200	2,96%	86.102	79,57%	14.341	13,25%	4.572	4,22%	108.215
Other Fish	6.337	7,56%	71.294	85,05%	3.045	3,63%	3.149	3,76%	83.825
Cephalopods			55	93,22%			4	6,78%	59
Total	138.677	6,48%	1.304.445	60,99%	570.890	26,69%	124.702	5,83%	2.138.714

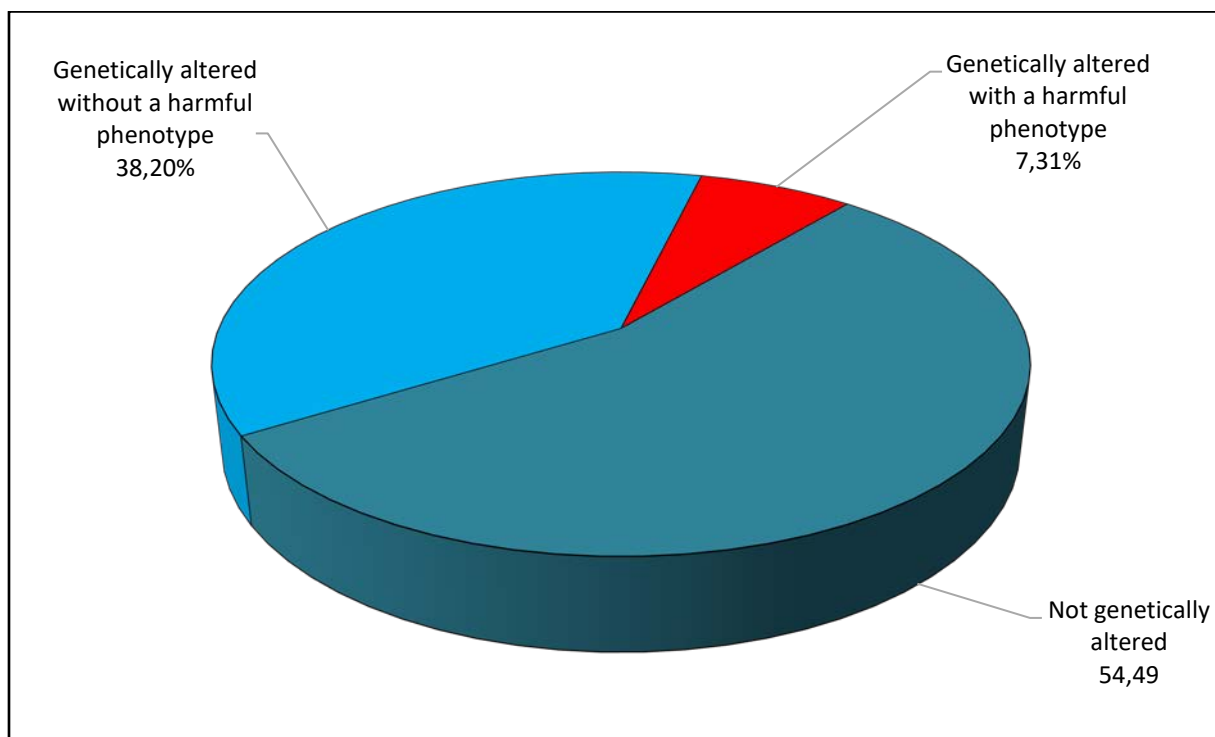
6. Use of species and genetic status

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	648.806	741.151	149.618	1.539.575
Rats	213.966	5.300	3.545	222.811
Guinea-Pigs	14.229			14.229
Hamsters (Syrian)	669		271	940
Mongolian gerbil	3.366			3.366
Other Rodents	2.942			2.942
Rabbits	85.112	37	44	85.193
Cats	765			765
Dogs	3.979			3.979
Ferrets	91	4		95
Other carnivores	389			389
Horses, donkeys & cross-breeds	792			792
Pigs	18.649	186	48	18.883
Goats	499			499
Sheep	4.751			4.751
Cattle	7.307			7.307
Prosimians	63			63
Marmoset and tamarins	229			229
Cynomolgus monkey	2.875			2.875
Rhesus monkey	65			65
Vervets Chlorocebus spp.	14			14
Baboons	10			10
Squirrel monkey	25			25
Other species of Old World Monkeys (Cercopithecoidea)	7			7
Other Mammals	1.439			1.439
Domestic fowl	22.738	324		23.062
Other birds	7.331			7.331
Reptiles	152			152
Rana	834			834

Xenopus	2.419	15		2.434
Other Amphibians	1.122	437		1.559
Zebra fish	39.495	65.958	2.762	108.215
Other Fish	80.131	3.617	77	83.825
Cephalopods	59			59
Total	1.165.320	817.029	156.365	2.138.714
%	54,49%	38,20%	7,31%	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	1.516.931	22.644	1.539.575
Rats	216.510	6.301	222.811
Guinea-Pigs	13.946	283	14.229
Hamsters (Syrian)	932	8	940
Mongolian gerbil	3.283	83	3.366
Other Rodents	2.895	47	2.942
Rabbits	81.201	3.992	85.193
Cats	556	209	765
Dogs	2.108	1.871	3.979
Ferrets	69	26	95
Other carnivores	389		389
Horses, donkeys & cross-breeds	431	361	792
Pigs	17.624	1.259	18.883
Goats	475	24	499
Sheep	4.613	138	4.751
Cattle	6.828	479	7.307
Prosimians	11	52	63
Marmoset and tamarins	198	31	229
Cynomolgus monkey	2.314	561	2.875
Rhesus monkey	51	14	65
Vervets Chlorocebus spp.		14	14
Baboons	10		10
Squirrel monkey	25		25
Other species of Old World Monkeys (Cercopithecoidea)		7	7
Other Mammals	1.423	16	1.439
Domestic fowl	22.815	247	23.062
Other birds	6.909	422	7.331
Reptiles	146	6	152
Rana	834		834
Xenopus	1.464	970	2.434
Other Amphibians	1.559		1.559
Zebra fish	108.215		108.215
Other Fish	83.410	415	83.825
Cephalopods	59		59
Total uses	2.098.234	40.480	2.138.714

Figure 5: Use of species groups and re-use

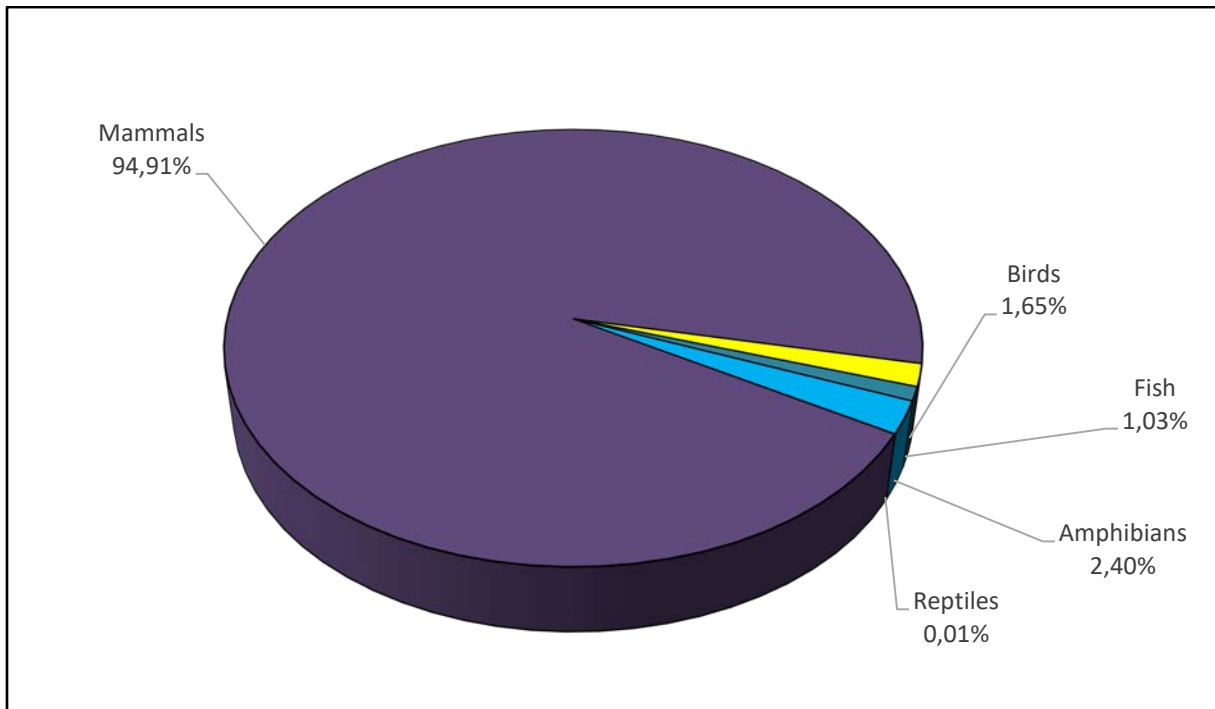
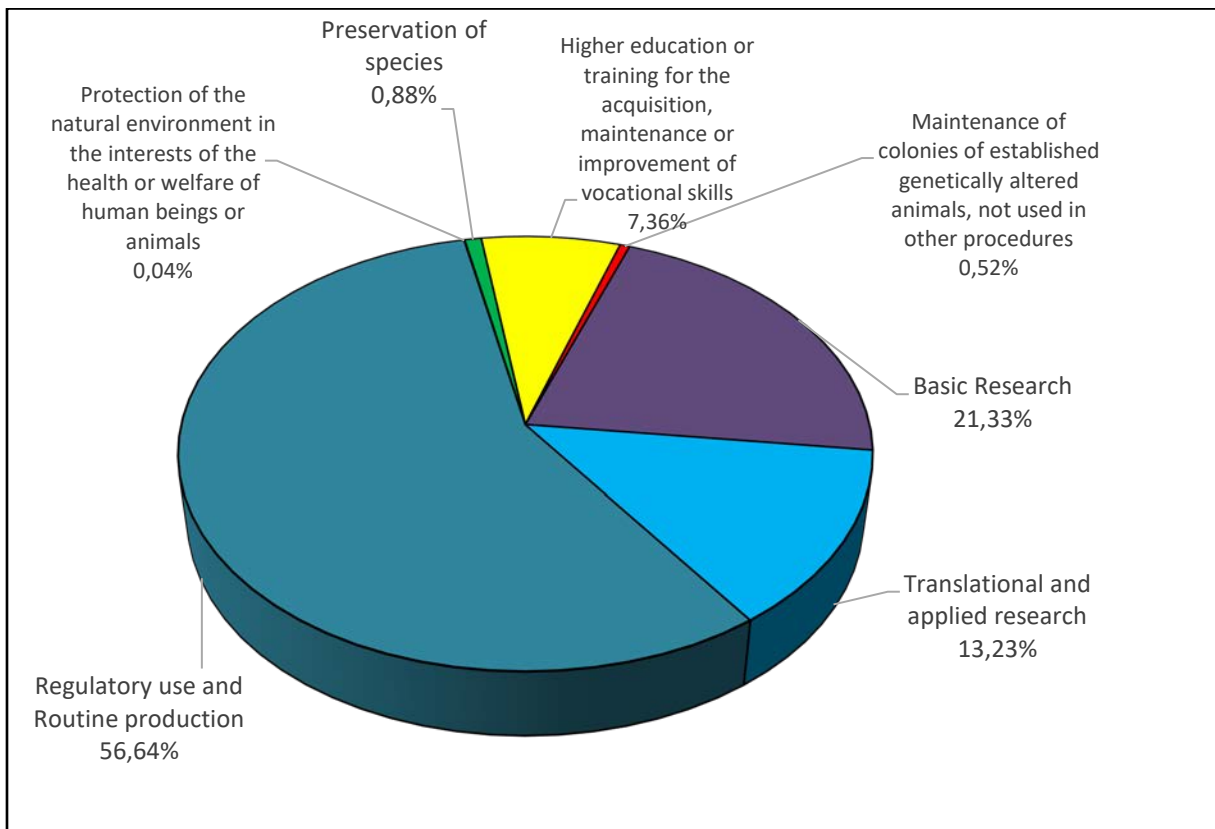


Figure 6: Primary purpose and re-use



8. Purposes and severity

Table 22: Purpose and severity

	Non-recovery	Mild [up to and including]	Moderate	Severe	Total
Basic Research	78.050	574.387	264.184	21.135	937.756
Translational and applied research	18.024	136.032	159.653	9.386	323.095
Regulatory use and Routine production	31.297	255.281	119.008	78.668	484.254
Protection of the natural environment in the interests of the health or welfare of human beings or animals		7.401	808	80	8.289
Preservation of species		13.376	705	7	14.088
Higher education or training for the acquisition, maintenance or improvement of vocational skills	10.761	32.778	11.685	162	55.386
Maintenance of colonies of established genetically altered animals, not used in other procedures	545	285.190	14.847	15.264	315.846
Total uses	138.677	1.304.445	570.890	124.702	2.138.714
%	6,48%	60,99%	26,69%	5,83%	100,00%

Table 23: Basic research purposes and severity

	Non-recovery	Mild [up to and including]	Moderate	Severe	Total
Oncology	4.597	35.975	45.713	3.129	89.414
Cardiovascular Blood and Lymphatic System	7.748	50.710	34.785	1.194	94.437
Nervous System	18.265	107.823	56.290	5.064	187.442
Respiratory System	3.465	9.221	6.979	435	20.100
Gastrointestinal System including Liver	3.406	14.817	11.824	1.297	31.344
Musculoskeletal System	5.239	13.730	5.307	192	24.468
Immune System	17.084	109.187	54.021	5.030	185.322
Urogenital/Reproductive System	4.479	19.024	3.744	187	27.434
Sensory Organs (skin, eyes and ears)	1.555	16.505	4.415	968	23.443
Endocrine System/Metabolism	1.544	46.334	12.243	558	60.679
Multisystemic	6.674	88.808	16.204	2.349	114.035
Ethology / Animal Behaviour / Animal Biology	3.979	59.392	3.034	34	66.439
Other basic research	15	2.861	9.625	698	13.199
Total uses	78.050	574.387	264.184	21.135	937.756
%	8,32%	61,25%	28,17%	2,25%	100,00%

Table 24: Basic research: species and severity

	Non-recovery	Mild [up to and including]	Moderate	Severe	Total
Mice	67.428	415.302	239.978	18.677	741.385
Rats	3.406	14.905	10.774	2.178	31.263
Guinea-Pigs	22	331	204	4	561
Hamsters (Syrian)		20	16		36
Mongolian gerbil	130	228	772	4	1.134
Other Rodents	146	1.410	946		2.502
Rabbits	12	638	189		839
Cats	2	84	12		98
Dogs		225	24		249
Ferrets		39	13	3	55
Other carnivores		2			2
Horses, donkeys & cross-breeds		493			493
Pigs	361	4.265	878	1	5.505
Sheep	34	77	79	32	222
Cattle		4.097	48		4.145
Prosimians		63			63
Marmoset and tamarins		45	22		67
Cynomolgus monkey		11	8		19
Rhesus monkey	2	14	12		28
Other Mammals	23	827	62		912
Domestic fowl	7	6.400	267		6.674
Other birds	24	5.118	726		5.868
Reptiles		17	96	113	226
Rana		810			810
Xenopus	100	1.842	263		2.205
Other Amphibians	25	211	255		491
Zebra fish	2.858	68.391	7.760	201	79.210
Other Fish	3.470	48.521	780	31	52.802
Cephalopods		1		4	5
Total uses:	78.050	574.387	264.184	21.135	937.756

Table 25: Translational and applied research: purposes and severity

	Non-recovery	Mild [up to and including]	Moderate	Severe	Total
Human Cancer	2.241	21.216	96.878	1.814	122.149
Human Infectious Disorders	1.603	16.733	7.225	1.554	27.115
Human Cardiovascular Disorders	3.440	10.277	2.830	611	17.158
Human Nervous and Mental Disorders	2.149	18.452	14.779	760	36.140
Human Respiratory Disorders	1.732	4.921	2.754	710	10.117
Human Gastrointestinal Disorders including Liver	82	5.759	7.874	299	14.014
Human Musculoskeletal Disorders	196	648	1.987	323	3.154
Human Immune Disorders	1.444	8.212	6.373	1.360	17.389
Human Urogenital/Reproductive Disorders	285	826	987	78	2.176
Human Sensory Organ Disorders (skin, eyes and ears)	72	4.661	1.190	254	6.177
Human Endocrine/Metabolism Disorders	330	14.862	2.508	31	17.731
Other Human Disorders	126	3.400	2.332	375	6.233
Animal Diseases and Disorders	4.069	16.100	2.575	807	23.551
Animal Welfare	8	5.489	214	26	5.737
Diagnosis of diseases	28	1.075	3.626	384	5.113
Plant diseases		18			18
Non-regulatory toxicology and ecotoxicology	219	3.383	5.521		9.123
Total	18.024	136.032	159.653	9.386	323.095
%	5,58%	42,10%	49,41%	2,91%	100,00%

Table 26: Translational and applied research: species and severity

	Non-recovery	Mild [up to and including]	Moderate	Severe	Total
Mice	11.618	90.110	142.629	8.489	252.846
Rats	2.771	15.182	10.160	580	28.693
Guinea-Pigs	262	309	330	2	903
Hamsters (Syrian)	4	471	211		686
Mongolian gerbil		799	1.083	20	1.902
Other Rodents		327	17	8	352
Rabbits	209	535	411	9	1.164
Cats		328	24		352
Dogs		943	54		997
Ferrets		22	4		26
Horses, donkeys & cross-breeds	14	208			222
Pigs	618	6.002	403	191	7.214
Goats		282	55		337
Sheep	32	2.624	674	28	3.358
Cattle		904	180	4	1.088
Marmoset and tamarins		3	9		12
Cynomolgus monkey	3	210	38		251
Rhesus monkey		17	20		37
Vervets Chlorocebus spp.		14			14
Baboons				10	10
Squirrel monkey		20	4	1	25
Other species of Old World Monkeys (Cercopithecoidea)		7			7
Other Mammals		191	12	12	215
Domestic fowl	66	5.924	1.456	32	7.478
Other birds	49	565	65		679
Reptiles	18	10			28
Xenopus		25			25
Zebra fish		3.953	1.104		5.057
Other Fish	2.360	6.047	710		9.117
Total uses:	18.024	136.032	159.653	9.386	323.095

Table 27: Regulatory use/routine production purposes and severity

	Non-recovery	Mild [up to and including]	Moderate	Severe	Total
Routine production	26.031	47.551	106	1	73.689
Quality control (incl batch safety and potency testing)	138	63.562	57.345	67.899	188.944
Other efficacy and tolerance testing	505	7.470	9.002	679	17.656
Toxicity and other safety testing including pharmacology	4.623	136.698	52.555	10.089	203.965
Total	31.297	255.281	119.008	78.668	484.254
%	6,46%	52,72%	24,58%	16,25%	100,00%

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

	Non-recovery	Mild [up to and including]	Moderate	Severe	Total
Mice	2.871	90.233	33.076	64.894	191.074
Rats	2.408	73.518	74.397	1.608	151.931
Guinea-Pigs		7.653	263	4.466	12.382
Hamsters (Syrian)		188			188
Mongolian gerbil		203			203
Other Rodents		9		31	40
Rabbits	25.552	56.401	893	79	82.925
Cats		225	38		263
Dogs	78	1.707	311	13	2.109
Other carnivores		108	279		387
Horses, donkeys & cross-breeds		6	1		7
Pigs	343	1.496	1.168		3.007
Goats		104			104
Sheep		835	52		887
Cattle		1.192	49	1	1.242
Marmoset and tamarins			150		150
Cynomolgus monkey		1.030	1.575		2.605
Other Mammals		1	34		35
Domestic fowl	38	5.926	546	77	6.587
Other birds		243	36	11	290
Reptiles		5			5
Xenopus		60			60
Zebra fish	7	7.473	5.457	4.370	17.307
Other Fish		6.665	683	3.118	10.466
Total uses:	31.297	255.281	119.008	78.668	484.254

Table 29: Quality control purposes and severity

	Non-recovery	Mild [up to and including]	Moderate	Severe	Total
Batch safety testing	138	11.318	843	50	12.349
Pyrogenicity testing		6.183	108		6.291
Batch potency testing		44.968	56.365	67.849	169.182
Other quality controls		1.093	29		1.122
Total	138	63.562	57.345	67.899	188.944
%	0,07%	33,64%	30,35%	35,94%	100,00%

Table 30: Routine production purposes and severity

	Non-recovery	Mild [up to and including]	Moderate	Severe	Total
Blood based products	25.963	43.807	34		69.804
Other product types	68	2.199	52	1	2.320
Total	26.031	46.006	86	1	72.124
%	36,09%	63,79%	0,12%	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		4.567	492	1.488	6.547
Skin irritation/corrosion		452	63		515
Skin sensitisation		5.481	1.024	68	6.573
Eye irritation/corrosion		58	42		100
Repeated dose toxicity	45	10.533	9.321	214	20.113
Carcinogenicity		482	194	118	794
Genotoxicity	1	2.777	256	52	3.086
Reproductive toxicity		15.640	966	8	16.614
Developmental toxicity		18.972	517	4.081	23.570
Neurotoxicity		40	112		152
Kinetics	478	21.850	7.191	98	29.617
Pharmaco-dynamics (incl safety pharmacology)	4.065	39.102	25.702	1.314	70.183
Ecotoxicity	7	13.392	6.166	2.587	22.152
Safety testing in food and feed area		1.643	216		1.859
Target animal safety		946	76	58	1.080
Other toxicity/safety testing	27	763	217	3	1.010
Total uses	4.623	136.698	52.555	10.089	203.965
%	2,27%	67,02%	25,77%	4,95%	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	45	7.632	5.126	209	13.012
29 - 90 days		2.500	1.753	4	4.257
> 90 days		401	2.442	1	2.844
Total	45	10.533	9.321	214	20.113
%	0,22%	52,37%	46,34%	1,06%	100,00%

Table 33: Acute and subacute toxicity testing methods and severity

	Non-recovery	Mild [up to and including]	Moderate	Severe	Total
LD50. LC50		63	317	1.251	1.631
Other lethal methods		84		131	215
Non lethal methods		4.420	175	106	4.701
Total	0	4.567	492	1.488	6.547
%	0,00%	69,76%	7,51%	22,73%	100,00%

Table 34: Ecotoxicity testing methods and severity

	Non-recovery	Mild [up to and including]	Moderate	Severe	Total
Acute toxicity	7	7.706	261	2.458	10.432
Chronic toxicity		1.959	5.598	66	7.623
Endocrine activity		727		63	790
Bioaccumulation		2.974	293		3.267
Other ecotoxicity		26	14		40
Total	7	13.392	6.166	2.587	22.152
%	0,03%	60,46%	27,83%	11,68%	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 phar- macology	Routine production	Total
Legislation on medicinal prod- ucts for human use	177.233	13.898	120.511	26.711	338.353
Legislation on medicinal prod- ucts for veterinary use and their resi- dues	11.431	2.999	3.618	1.728	19.776
Medical devices legislation	203	161	7.680	41.680	49.724
Industrial chemi- cals legislation			38.500	480	38.980
Plant protection product legislation			30.216	10	30.226
Biocides legislati- on		426		94	520
Food legislation including food contact material			510		510
Feed legislation including legisla- tion for the safety of target animals. workers and envi- ronment	18	21	1.913		1.952
Other legislation	59	151	1.017	2.986	4.213
Total	188.944	17.656	203.965	73.689	484.254

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	161.714	8.322	1.099	6.098	177.233
Legislation on medicinal products for veterinary use and their residues	7.409	4.014		8	11.431
Medical devices legislation		13	5	185	203
Feed legislation including legislation for the safety of target animals, workers and environment			18		18
Other legislation	59				59
Total	169.182	12.349	1.122	6.291	188.944

Table 37: Routine production purposes: type of legislation

	Blood based products	Other product types	Total
Legislation on medicinal products for human use	26.542	169	26.711
Legislation on medicinal products for veterinary use and their residues	1.728		1.728
Medical devices legislation	41.528	56	41.584
Industrial product legislation		155	155
Plant protection product legislation		10	10
Biocides legislation		94	94
Other legislation	6	1.836	1.842
Total of uses:	69.804	2.320	72.124

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	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	1.939		2.101	1.326	1.136	30		15	6.547
Skin irritation/corrosion	18		351	125	18			3	515
Skin sensitisation	1.458		3.025	1.701	389				6.573
Eye irritation/corrosion			30	31	39				100
Repeated dose toxicity	14.571	240	26	3.577	1.387	312			20.113
Carcinogenicity	194				600				794
Genotoxicity	908	96	88	647	1.347				3.086
Reproductive toxicity	1.110			11.965	3.371	168			16.614
Developmental toxicity	275		575	8.638	14.082				23.570
Neurotoxicity					152				152
Kinetics	27.230	1.558		144	685				29.617
Pharmaco-dynamics (incl safety pharmacology)	69.576	531	48					28	70.183
Ecotoxicity	2.674	122	1.339	10.346	6.971		54	646	22.152
Safety testing in food and feed area							1.859		1.859
Target animal safety		1.041			39				1.080
Other toxicity/safety testing	558	30	97					325	1.010
Total of uses:	120.511	3.618	7.680	38.500	30.216	510	1.913	1.017	203.965

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	9.854	2.603	2.114	14.571
Legislation on medicinal products for veterinary use and their residues	240			240
Medical devices legislation	26			26
Industrial chemicals legislation	1.513	1.334	730	3.577
Plant protection product legislation	1.307	80		1.387
Food legislation including food contact material	72	240		312
Total of uses:	13.012	4.257	2.844	20.113

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		26	1.913	1.939
Medical devices legislation			2.101	2.101
Industrial chemicals legislation	703	9	614	1.326
Plant protection product legislation	928	150	58	1.136
Food legislation including food contact material		30		30
Other legislation			15	15
Total of uses:	1.631	215	4.701	6.547

Table 41: Ecotoxicity purposes: type of legislation

	Acute toxicity	Chronic toxicity	Endocrine activity	Bioaccumulation	Other ecotoxicity	Total
Legislation on medicinal products for human use	9	2.476		189		2.674
Legislation on medicinal products for veterinary use and their residues	122					122
Medical devices legislation	840			499		1.339
Industrial chemicals legislation	4.782	4.394	200	970		10.346
Plant protection product legislation	4.005	753	590	1.609	14	6.971
Feed legislation including legislation for the safety of target animals, workers and environment	54					54
Other legislation	620				26	646
Total	10.432	7.623	790	3.267	40	22.152

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	182.239	17.507	200.761	71.631	472.138
Legislation satisfying national requirements only [within EU]	1.316	149	1.159	2.058	4.682
Legislation satisfying Non-EU requirements only	5.389		2.045		7.434
Total	188.944	17.656	203.965	73.689	484.254

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	6.462	15	70	6.547
Skin irritation/corrosion	472		43	515
Skin sensitisation	6.287		286	6.573
Eye irritation/corrosion	100			100
Repeated dose toxicity	19.307		806	20.113
Carcinogenicity	794			794
Genotoxicity	3.086			3.086
Reproductive toxicity	16.614			16.614
Developmental toxicity	23.570			23.570
Neurotoxicity	152			152
Kinetics	29.574		43	29.617
Pharmaco-dynamics (incl safety pharmacology)	69.436	283	464	70.183
Ecotoxicity	21.042	857	253	22.152
Safety testing in food and feed area	1.859			1.859
Target animal safety	1.000		80	1.080
Other toxicity/safety testing	1.006	4		1.010
Total	200.761	1.159	2.045	203.965

Table 44: Repeated dose toxicity: origin of legislative requirement

	up to 28 days	29 - 90 days	> 90 days	Total
Legislation satisfying EU requirements	12.896	3.942	2.469	19.307
Legislation satisfying national requirements only [within EU]				
Legislation satisfying national requirements only [within EU]	116	315	375	806
Total	13.012	4.257	2.844	20.113

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

	LD50. LC50	Other lethal methods	Non lethal methods	Total
Legislation satisfying EU requirements	1.591	185	4.686	6.462
Legislation satisfying national requirements only [within EU]			15	15
Legislation satisfying national requirements only [within EU]	40	30		70
Total	1.631	215	4.701	6.547

Table 46: Ecotoxicity testing: origin of legislative requirement

	Acute toxicity	Chronic toxicity	Endocrine activity	Bioaccumulation	Other ecotoxicity	Total
Legislation satisfying EU requirements	9.528	7.623	790	3.087	14	21.042
Legislation satisfying national requirements only [within EU]	831				26	857
Legislation satisfying Non-EU requirements only	73			180		253
Total	10.432	7.623	790	3.267	40	22.152

11. Animals used under § 4 (3) of the Animal Protection Act by speciesTable 47: Animals used by species

Animal Species	Number of Animals	%
Mice	563.844	82,15
Rats	70.804	10,32
Guinea-Pigs	684	0,10
Hamsters (Syrian)	92	0,01
Mongolian gerbil	1.201	0,17
Other Rodents	883	0,13
Rabbits	452	0,07
Dogs	14	0,00
Ferrets	6	0,00
Horses, donkeys & cross-breeds	19	0,00
Pigs	911	0,13
Goats	58	0,02
Sheep	8	0,00
Cattle	135	0,02
Marmoset and tamarins	23	0,00
Cynomolgus monkey	3	0,00
Rhesus monkey	10	0,00
Other Mammals	162	0,02
Domestic fowl	8.766	1,28
Other birds	586	0,09
Reptiles	164	0,02
Rana	9	0,00
Xenopus	1.835	0,27
Other Amphibians	289	0,04
Zebra fish	25.184	3,67
Other Fish	10.210	1,49
Total	686.352	100,00%