

Fatal and non-fatal accidents in plastics products in Japan in 1999-2022

plastics products industry Code No.010805

Type of accidents in plastics products in 1999-2022

Type of accidents	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	total
fall from height	140	132	144	115	132	102	135	123	122	130	107	89	121	91	81	109	110	97	100	105	103	110	126	109	2,733
falling to same level	119	122	115	90	108	125	129	124	120	146	106	101	128	126	124	132	117	150	156	174	157	141	154	181	3,145
crash	53	50	57	45	45	40	44	41	49	53	34	51	42	41	31	37	45	50	49	60	53	36	57	49	1,112
struck by flying or falling object	89	96	76	64	85	70	58	60	64	65	55	54	58	46	51	72	56	59	50	50	42	41	41	44	1,446
collapse	14	25	24	15	18	22	19	30	26	27	11	12	22	20	18	14	26	18	11	17	10	16	13	19	447
crashed by	44	50	41	36	36	27	30	33	50	49	18	27	26	26	42	33	28	43	37	36	35	30	40	49	866
caught in/between	469	451	471	394	394	373	382	385	376	362	311	308	306	315	266	268	268	273	280	301	271	258	290	248	8,020
cut	155	131	146	131	134	135	134	120	132	112	82	83	112	100	107	97	89	87	84	96	78	91	80	81	2,597
injury to the sole of the foot	1	1	1	2	1	1	1						2	2		2	4		1	3		1	1	2	26
drown																								1	1
contact to high/low-temperature	24	18	32	18	17	30	25	21	24	22	21	24	18	17	21	16	13	18	26	21	20	15	21	21	503

contact to harmful substance	2	3	3	5	6	5	7	5	9	6	4	1	5	3	2	1	3	5	9	6	4	1		6	101
electric shock	1	1	3	2	2	4		2	2		3	1	2	3		4	2	3	2	2	1	3	1	1	45
explosion		3	1	2		1			2	1	1				2							2		1	16
burst		1					1						1	2	1			1	1	1				1	10
fire	3	4	2	4	2	1		1	1	1		1		1	2		1		1	1	1	4	1	1	33
traffic accident (public road)	9	5	11	7	9	8	6	1	15	1	9	10	7	13	7	3	4	5	6	5	16	9	3	5	174
traffic accident (others)								1				1					2		3						7
reaction to motion/improper motion	78	70	69	57	81	76	64	73	80	90	64	69	86	79	72	76	81	81	88	87	89	85	104	99	1,898
others	3	2	1		3	3	3	3	3	3	1	7	3	1	1	3	4	2	4	7	3	16	39	5	120
unclassifiable	1			1	1	2	1		5	1	1		1	2	2						1	2			21
total	1,205	1,165	1,197	988	1,074	1,025	1,039	1,023	1,080	1,069	828	839	940	888	830	867	853	892	908	972	884	861	971	923	23,321

Causal agents (large) of fatal and non-fatal accidents in plastics products in 1999-2022

Causal (L) agents	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	total
machine	577	542	566	462	501	470	471	432	453	434	361	339	362	352	332	307	327	317	302	337	301	293	303	292	9,433
crane, conveying machine	99	104	113	100	102	93	115	97	118	109	74	93	85	84	87	80	74	107	84	95	99	81	89	80	2,262



metal manufacturing machine	79	62	59	54	52	44	54	41	46	34	25	30	33	36	36	36	33	31	30	32	30	29	29	39	974
general machine	452	440	483	379	406	397	374	361	376	379	316	290	295	288	271	244	266	263	252	284	250	246	255	238	7,805
mobile silviculture machine																									
crane	15	25	15	17	19	16	21	18	15	15	10	8	16	12	13	9	14	16	8	14	15	14	15	12	352
conveying machine	75	74	90	76	71	65	85	75	92	91	55	75	58	60	66	69	56	87	67	78	70	59	68	63	1,725
vehicle	9	5	8	7	12	12	9	4	11	3	9	10	11	12	8	2	4	4	9	3	14	8	6	5	185
pressure vessel	1	1	2	2					1				2	1				3			1		3		17
chemical facilities		1		2		1	2	3	2										1	1	1	1	1		16
welding equipment	5		1			1	1					2						2	1	2		2		1	18
kiln, caldron	3	2	1	3	1		3	2		1	5		1	1	1	4	2	1		1	2	1	3	2	40
electric equipment	4	3	1	4	5	1	1	1	1	1	3	2	1	3		1		1	2	2	2	5	1	2	47
human power machine, tools	71	49	73	65	53	66	56	61	67	66	46	60	67	54	57	58	56	61	71	59	66	58	60	66	1,466
tools	98	76	67	74	72	71	81	77	91	98	65	60	78	63	66	85	70	82	97	98	81	86	94	96	1,926
other equipments, facilities	22	24	28	21	21	23	25	25	29	26	17	23	23	26	21	32	24	22	16	27	12	26	38	30	581
temporary buildings,	134	147	138	96	129	117	141	154	127	159	111	109	150	139	107	151	132	160	147	168	161	140	161	167	3,345





lathe			12		8		9	4	3	7	4	5	5	6	3	7	2	7	4	2		4	7	6	105
drill press, milling machine			13		10		5	5	4	9	6	4	6	8	7	6	8	6	2	9	7	9	8	6	138
grinding machine, buffing machine			4		3		7	9	6	3	2	2	3	3	3	5	3	3	5	4	4	5	3	4	81
power press			13		12		13	10	13	8	8	9	6	10	6	7	11	5	10	9	10	4	6	10	180
forging pressure hammer																									
shearing machine			2		4		4	4	4	2	2		1	4	3	2		3		2	2	2		5	46
other metal manufacturing machines			15		15		16	9	16	5	3	10	12	5	14	9	9	7	9	6	7	5	5	8	185
centrifugal machine									2								1	1					1		5
mixer, grinder			46		36		31	30	32	22	23	18	22	29	24	17	21	29	21	28	20	20	24	23	516
roll machine (except printingroll machine)			58		46		37	37	42	52	41	43	43	34	46	34	36	27	36	36	36	35	30	31	780
injection molding machine			111		111		96	84	84	57	65	63	46	56	48	42	46	42	35	43	35	39	46	32	1,181
food manufacturing machine							1	1			1		1				1							1	6
printing machine			8		10		11	6	8	7	9	5	7	12	6	5	5	6	7	8	3	4	8	5	140
industrial robot			1		1		1	1	3	3	5	2	3	2	1	2	3	4		3	4	1	3	2	45

other general power machines			259		202		197	202	205	238	172	159	173	155	146	144	153	154	153	166	152	147	143	144	3,464
felling machine																									
mobile logging machine																									
skyline yarding machine																									
other mobile silviculture machine																									
crane			12		14		18	15	12	13	8	4	13	9	8	7	13	12	7	10	10	11	12	9	217
mobile crane											1		1									1			3
derrick crane																									
elevator, lift			2		5		2	2	3	1	1	2		3	3	2	1	2	1	1	5	2	2	2	42
cargo lifting appliance																									
gondola																									
lumberyard equipment, logging cableway																									
simple skyline yarding equipment																									
other powered crane			1				1	1		1		2	2		2			2		3		1		1	17



truck			23		20		21	17	17	17	16	14	8	16	14	18	13	19	6	17	23	11	13	15	318
forklift			47		30		45	37	51	44	26	36	36	31	34	37	28	50	45	41	30	22	29	36	735
railway equipment										1								1							2
conveyor			17		19		16	20	20	23	10	21	12	13	16	10	14	12	9	15	14	20	22	10	313
loader									1																1
straddle carrier																									
rough terrain hauler							1								1										2
other powered conveying machines			3		2		2	1	3	6	3	4	2		2	3	1	5	7	5	3	6	4	2	64
cars, bus, motorcycle			6		9		9	3	10	2	8	10	10	12	6	2	3	3	9	3	13	8	6	5	137
railway vehicle					1										1										2
other vehicles			2		2			1	1	1	1		1		1		1				1				13
boiler									1									1							2
pressure vessel			1									2									1		1		5
other pressure vessels			1											1				2					2		6
chemical facilities							2	3	2										1	1	1	1	1		12
gas welding equipment			1																						1
arc welding equipment							1											1		2					4

other welding equipment											2						1	1			2		1	7	
kiln, caldron			1			2	1			1		1		1		1				1					9
industrial dryer				1		1	1		1	3			1		3	1			1	1	1	3	1		19
other kiln, caldron										1				1		1							1		4
transmission			1		1	1	1				1		2		1		1	1	1		4	1	1		17
electric power facilities					3						1			1							1				6
other electrical equipment					1			1	1	2	1	1						1	1	1	1		1		12
human power cranes			1		2		1	2	1	2	1	1		1	1	1	2	1		6	1	7	11		42
human power hauling equipment			20		26		23	17	30	31	14	22	30	19	24	22	29	30	29	32	28	25	26	25	502
human power machine			5		1		3		2	1	2	4	1		2	1	1	1	2	1	1		1	1	30
hand tool			47		24		30	43	33	33	28	33	35	35	30	34	25	28	39	26	31	32	26	29	641
ladder			34		32		39	38	46	47	29	31	35	37	31	39	35	31	40	46	36	46	50	41	763
slinging tool			3		4		3	6	3	3	4	2	2	3	2	2	2	4	2	3	6	2	8	3	67
other tools			30		36		39	33	42	48	32	27	41	23	33	44	33	47	55	49	39	38	36	52	777
other equipment, facilities			28		21		25	25	29	26	17	23	23	26	21	32	24	22	16	27	12	26	38	30	491
scaffolding			1		1			3		2		1	4	2	3		2	2	2	1	2	1	1	2	30



metal material			32		36		26	27	30	16	26	21	20	19	26	18	23	15	23	15	20	22	22	21	458
lumber, bamboo			6		4		2	4	2	3	1	1	3	2	2	2	2	4	3	3		1	2		47
stone, sand, substance			2												1	1				1	1			1	7
other materials			31		28		22	25	35	37	26	29	27	23	26	20	27	19	31	15	20	22	29	29	521
load			79		58		40	53	59	52	46	58	61	60	47	46	64	47	53	64	48	53	62	58	1,108
machine/equipment as load			16		7		7	8	5	4	6	5	5	9	7	6	3	5	2	3	3	1	5	4	111
natural ground, rock			1					1															1		3
standing tree										1	1				1							1			4
water									1							2	1								4
abnormal environment			1		2		1												1						5
high/cold temperature environment			1		1		2	3		3	1	6	3	1	2	6	2	4	8	7	6	4	5	3	68
other environments			4		6		3	3	2	5	2	3	8	8	3	9	1	7	11	11	3	2	5	12	108
other causal agent			6		11		6	8	9	8	4	7	7	5	7	3	5	4	5	9	9	20	41	5	179
no causal agent			18		24		27	31	28	32	25	19	29	32	29	32	33	24	31	43	39	37	41	44	618
unclassifiable			1		3		1	2	7	3	1		1	1	1	1			2	1			1	2	28
total	1,205	1,165	1,197	988	1,074	1,025	1,039	1,023	1,080	1,069	828	839	940	888	830	867	853	892	908	972	884	861	971	923	23,321

Workers age of fatal and non-fatal accidents in plastics products in 1999-2022

Age	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	total
19 years old or less	40	31	36	24	38	28	38	34	20	30	16	20	20	16	26	16	15	25	19	18	21	14	16	15	576
20-29	255	249	258	239	213	203	208	199	224	188	171	155	162	166	149	151	145	145	164	135	154	145	165	128	4,371
30-39	216	235	245	224	266	240	253	253	248	253	189	212	210	217	182	217	195	202	157	214	154	154	167	159	5,062
40-49	267	232	249	175	203	173	201	197	221	222	160	190	213	198	215	208	211	210	240	245	228	202	232	224	5,116
50-59	317	306	312	234	252	251	244	231	243	249	182	162	209	174	147	180	167	192	203	234	178	204	247	237	5,355
60 years old or more	110	112	97	92	102	130	95	109	124	127	110	100	126	117	111	95	120	118	125	126	149	142	144	160	2,841
total	1,205	1,165	1,197	988	1,074	1,025	1,039	1,023	1,080	1,069	828	839	940	888	830	867	853	892	908	972	884	861	971	923	23,321

Workers' number of workplace of fatal and non-fatal accidents in plastics products in 1999-2022

Workers scale	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	total
9 workers or less	246	247	252	208	229	212	201	194	173	137	138	120	121	107	102	111	104	107	91	90	75	77	93	88	3,523
10-29	365	360	350	286	325	278	327	317	304	290	218	211	249	250	247	258	246	216	255	239	217	218	219	222	6,467
30-49	200	191	200	175	172	193	175	168	182	210	137	130	152	166	139	137	167	161	159	196	157	145	175	158	4,045
50-99	194	179	198	159	178	173	168	171	197	185	146	150	213	170	153	160	130	157	181	194	194	164	172	190	4,176
100-299	170	152	158	128	139	128	139	129	181	185	150	177	161	148	150	158	172	200	174	195	206	196	252	220	4,068
300 workers or more	30	36	39	32	31	41	29	44	43	62	39	51	44	47	39	43	34	51	48	58	35	61	60	45	1,042



Hokkaido	20	9	20		12		9	5	16	14	6	12	9	12	14	17	10	16	14	7	8	9	18	10	267
Aomori	2	1	4					3	1	1		1	1	3		2	3	1	4			1	5	3	36
Iwate	7	13	7		9		7	10	13	4	6	3	15	9	6	5	8	13	6	9	5	11	9	9	184
Miyagi	14	11	6		18		18	14	8	14	12	9	8	11	9	7	8	12	11	8	7	14	6	5	230
Akita	5	2	4		5		1	3	5	3	4	3	1	3		4	3		1	6	7	6	2	4	72
Yamagata	5	13	10		10		10	9	9	7	8	5	15	7	9	3	8	4	16	10	6	5	8	9	186
Fukushima	14	9	11		13		17	15	10	18	13	11	10	9	10	16	7	10	15	13	14	11	14	22	282
Ibaraki	53	52	58		34		57	51	56	48	42	30	48	37	23	30	39	30	43	47	48	62	40	53	981
Tochigi	41	48	48		50		35	38	34	38	33	24	33	47	36	28	21	35	34	42	35	27	32	33	792
Gunma	37	29	42		53		38	35	48	42	31	39	37	40	40	37	37	50	23	38	32	39	42	47	856
Saitama	68	55	77		80		76	68	70	58	44	68	52	56	50	57	54	56	49	53	51	42	57	58	1,299
Chiba	39	38	34		18		35	41	39	44	47	41	24	41	33	36	28	30	30	40	41	35	37	32	783
Tokyo	46	32	46		31		21	25	25	25	19	21	19	14	13	13	8	18	12	13	16	17	8	10	452
Kanagawa	39	48	36		29		41	22	32	30	19	22	24	21	23	20	14	20	22	20	21	15	29	17	564
Niigata	22	18	20		21		24	19	21	14	14	11	13	10	13	21	11	9	13	16	16	14	14	13	347
Toyama	16	26	21		36		22	18	19	20	25	16	15	16	6	20	17	21	22	24	12	16	15	13	416
Ishikawa	3	3	7		11		1	5	4	7	6	6	6	5	5	6	5	7	8	6	7	7	11	8	134
Fukui	13	13	24		7		13	6	17	25	12	15	13	17	12	7	11	16	17	10	11	15	22	13	309
Yamanashi	9	10	8		12		12	14	14	10	18	5	8	7	4	10	8	6	7	9	9	6	15	5	206
Nagano	24	25	20		17		21	17	16	18	9	16	26	15	9	18	32	29	18	16	12	24	18	24	424
Gifu	40	64	56		30		48	44	47	35	23	38	36	24	34	26	29	41	28	36	36	44	41	40	840
Shizuoka	64	78	77		57		48	65	74	74	53	69	74	57	52	48	53	74	67	61	48	54	68	67	1,382

































Ibaraki			1			1	1		1	1	1	1			2								9		
Tochigi	1					1		1			2			1			1				1		1	9	
Gunma		1						1						1		1		1			1			6	
Saitama			1					1						1										3	
Chiba				1				1	1					3							1		1	8	
Tokyo	2																							2	
Kanagawa			1						2					1				1	1					6	
Niigata				1		1	1				1													4	
Toyama		1		1												1								3	
Ishikawa																									
Fukui									1									1					1	3	
Yamanashi								1					1											2	
Nagano	1																1							2	
Gifu	1	1						2									1	1						6	
Shizuoka		1				1		1	1	1			2										1	8	
Aichi		1	1		1			1	1	1				2				1	1		2	1		13	
Mie																		1						1	
Shiga						1	1	1		1											1		1	1	7
Kyoto	1									1														2	
Osaka	2			1	1	2		1	1		1		2	1	1		1				2	1		1	18
Hyogo					2			1			1					1							1	1	7
Nara	2									1							1			1				5	

Wakayama																									
Tottori																									
Shimane																									
Okayama																									
Hiroshima						1																		1	
Yamaguchi				1																				1	
Tokushima																									
Kagawa													1				1					1		3	
Ehime																									
Kochi													1											1	
Fukuoka				1						2		1					2			1				7	
Saga																									
Nagasaki																									
Kumamoto																									
Oita																				1				1	
Miyazaki																									
Kagoshima																									
Okinawa																									
total	10	5	4	7	4	8	8	8	9	8	6	2	5	7	8	1	8	3	4	8	3	6	6	8	146

Data sources: <https://anzeninfo.mhlw.go.jp/user/anzen/tok/anst00.html> (MHLW, Japan)

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