

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

casting products industry Code No.011002

Type of accidents in casting 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	27	31	26	20	22	28	37	26	38	32	16	21	28	30	17	18	26	28	21	19	13	25	21	27	597
falling to same level	39	27	41	29	16	28	33	34	24	24	20	25	27	24	26	14	21	21	19	21	27	17	24	18	599
crash	14	25	18	14	18	26	21	17	28	14	7	11	15	16	10	7	11	12	15	16	11	9	13	13	361
struck by flying or falling object	114	127	93	68	88	94	117	106	85	89	49	67	81	76	59	63	55	65	51	51	34	45	49	60	1,786
collapse	19	24	24	13	19	20	22	21	22	16	14	19	18	16	13	17	15	12	12	17	14	8	18	12	405
crashed by	46	38	34	20	27	24	33	33	19	29	17	22	20	21	22	24	15	20	20	19	30	18	22	15	588
caught in/between	156	159	161	136	129	127	144	142	154	148	77	121	124	117	100	107	89	84	77	84	100	67	65	97	2,765
cut	43	27	39	26	23	26	31	19	25	30	26	21	26	17	17	19	12	19	17	19	14	10	19	12	537
injury to the sole of the foot	3	2	1	1	1		1		2		1		1	2	1		2		1	2					21
drown																									
contact to high/low-	67	76	60	56	42	54	45	61	46	55	25	43	58	43	37	41	26	52	32	29	39	33	22	29	1,071

temperature																									
contact to harmful substance		1	1	2	5	5	7	4	3		2	3	2	4	1	2	2	6	1	5		1	1		58
electric shock	1	1	2				2	2		1	1				1	1		1		1	1			15	
explosion	2	4		1	1	2		2	3	4		2		4		1			2		4	4		36	
burst		1		1				1											1					4	
fire	2			1	2	2	5	2	2	3	1	4			1	1	2	1	2		1	2	2	36	
traffic accident (public road)	1		1	3				3					1		1		4	3	1				1	4	23
traffic accident (others)		1																	1					2	
reaction to motion/improper motion	34	29	30	24	15	27	16	15	25	33	11	25	19	12	17	18	18	14	22	11	28	14	21	19	497
others			3	1		1	1			1	2	1	2	1	2	1	1			3		3	13	36	
unclassifiable	1	2						1					2				1			1				8	
total	569	575	534	416	408	464	515	489	476	479	269	386	423	384	324	334	300	338	295	298	316	256	291	306	9,445

Causal agents (large) of fatal and non-fatal accidents in casting 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	103	97	116	102	81	86	98	91	90	102	63	93	79	76	57	69	59	60	58	57	62	44	43	51	1,837

crane, conveying machine	84	96	83	58	78	62	94	99	94	92	46	60	87	73	61	64	62	62	49	55	58	48	47	61	1,673
other equipment	107	130	121	74	85	97	101	97	102	89	56	90	100	87	75	74	68	77	63	59	64	46	78	55	1,995
temporary buildings, establishments	42	38	36	35	25	47	43	41	41	35	25	22	35	34	27	22	20	36	35	28	36	29	23	32	787
substance, material	178	173	131	113	104	132	132	121	120	125	57	88	83	91	74	77	70	74	67	72	64	60	62	76	2,344
load	29	31	29	17	22	23	25	17	12	21	8	13	13	11	14	15	12	14	9	13	12	13	15	17	405
environment	8	3	3	4	1	6	7	11	4	3	6	7	9	3	5	5	3	6	3	6	4	4	1	6	118
others	18	7	15	13	12	11	15	12	13	12	8	13	17	9	11	8	6	9	11	8	16	12	22	8	286
total	569	575	534	416	408	464	515	489	476	479	269	386	423	384	324	334	300	338	295	298	316	256	291	306	9,445

Causal agents (middle) of fatal and non-fatal accidents in casting products in 1999-2022

Causal (M) 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
engine		1	1					1						1	1				1						6
power transmission mechanism	3	2	3	9	3	6	4	5	4	6	2	8	5	3	6	4	5	4	5	4	3	2	1	1	98
woodworking machine	6	1	1	6	1	1	2	1	2	3	4	3	3	2		4	2		1			1	2		46

pressure vessel																									
other pressure vessels																		2						2	
chemical facilities																									
gas welding equipment							1	1	1	2	2			1	3	1				1			1	14	
arc welding equipment			1		1		1		1		1						1					1		8	
other welding equipment							1		1				1							2				5	
kiln, caldron			11		13		14	12	11	10	8	12	15	12	6	11	6	9	9	8	14	11	5	7	204
industrial dryer								1	1	1			3	1										7	
other kiln, caldron					1		1	1	1	1	2				1		2	1		1		1		13	
transmission							2	1							1								1	5	
electric power facilities									1			1												2	
other electrical equipment			1		1		1				1	1				2	1	1		1				10	
human power cranes			2		2		1	1		1		1	2				3				2			15	
human power hauling equipment			7		3		3	8	6	3	2	5	6	4	6	3	5		2	5	6	2	6	4	86

human power machine			2					1	1												1			5	
hand tool			11		8		12	12	12	8	5	5	10	10	7	7	9	10	4	2	6	4	11	4	157
ladder			6		7		2	8	12	9	7	7	5	3	3	1	6	7	4	4		7	9	5	112
slinging tool			31		20		30	21	17	21	7	18	28	25	20	21	15	15	17	14	14	6	13	11	364
other tools			27		14		12	14	21	19	11	20	19	17	16	14	14	17	18	15	10	5	15	9	307
other equipment, facilities			22		15		22	17	17	13	9	18	14	12	13	12	6	16	9	7	9	9	18	13	271
scaffolding						1						1				1	1			1			2	7	
timbering								1																	1
stairs, landing stage			8		6		4	4	8	7	3	2	1	6	4	1	3	5	7	3	3	3	1	7	86
opening			1			3	2	1	4			1	2			1	4			1	2	1	1		24
roof, beam, haze, crossbeam, principal rafter					2		3	1	3		2		1		1	1	1	1	3	1			1	1	22
working platform, boot board			4		3		7	7	7	7	3	6	9	8	5	3	4	5	3	5	5	3	4	4	102
passage			18		4		14	18	14	9	15	6	14	7	10	10	7	14	16	11	17	11	9	12	236
building, establishment			3		7		3	4	5	5	1	5	4	6	2	3	3	2	2	3	5	7	3	2	75
other temporary buildings,			2		3		8	5	2	3	1	3	4	5	5	4		4	4	5	4	3	4	3	72

environment										1						1								2	
high/cold temperature environment			1		1		3	9	2	3	3	5	2	2	4	3	1	4	2	4	4	4	1	6	64
other environments			2				3	2	1		2	2	5	1	1	1	2	2	1	1				26	
other causal agent			2		3		6	4	2		2	1	6	1	2	3	1	3	1	1		3	13	1	55
no causal agent			12		8		9	8	11	12	6	12	8	6	8	5	4	6	10	6	16	9	9	6	171
unclassifiable			1		1								3	2	1		1			1				1	11
total	569	575	534	416	408	464	515	489	476	479	269	386	423	384	324	334	300	338	295	298	316	256	291	306	9,445

Workers age of fatal and non-fatal accidents in casting 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	11	21	15	6	11	11	17	9	14	11	5	7	12	9	10	7	5	6	5	6	5	8	3	5	219
20-29	86	87	81	78	82	82	76	81	86	96	50	70	98	73	58	77	65	65	48	61	55	56	51	52	1,714
30-39	71	72	86	78	60	91	126	102	97	99	58	92	97	94	79	78	69	77	66	65	69	53	60	63	1,902
40-49	115	114	91	76	87	70	84	100	100	97	50	76	85	94	74	76	62	80	66	68	87	60	78	75	1,965
50-59	192	178	174	118	112	130	139	127	109	108	63	73	65	78	55	56	58	67	68	60	56	44	59	79	2,268
60 years old or more	94	103	87	60	56	80	73	70	70	68	43	68	66	36	48	40	41	43	42	38	44	35	40	32	1,377
total	569	575	534	416	408	464	515	489	476	479	269	386	423	384	324	334	300	338	295	298	316	256	291	306	9,445

Workers' number of workplace of fatal and non-fatal accidents in casting 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	109	104	92	85	87	93	86	80	48	45	34	39	41	37	34	27	23	37	30	29	30	16	22	21	1,249
10-29	207	206	185	136	156	162	179	145	172	156	88	134	142	97	106	93	108	99	103	103	91	73	73	70	3,084
30-49	92	122	116	83	61	82	107	110	86	124	45	89	93	108	65	68	56	73	39	62	56	56	96	75	1,964
50-99	93	81	78	64	61	81	98	85	89	83	55	82	73	71	72	97	64	65	57	53	68	65	57	74	1,766
100-299	52	51	50	38	32	38	34	54	59	61	36	37	42	49	44	43	40	57	58	34	49	27	29	47	1,061
300 workers or more	16	11	13	10	11	8	11	15	22	10	11	5	32	22	3	6	9	7	8	17	22	19	14	19	321
total	569	575	534	416	408	464	515	489	476	479	269	386	423	384	324	334	300	338	295	298	316	256	291	306	9,445

Month of fatal and non-fatal accidents in casting products in 1999-2022

Month	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
January	41	48	40	34	28	34	37	41	41	40	28	28	35	27	24	36	26	32	18	32	25	30	22	26	773
February	53	46	59	27	29	28	59	42	45	47	26	23	34	38	25	31	22	26	23	20	28	19	15	33	798
March	47	41	53	36	37	47	41	44	35	50	23	32	33	34	19	30	33	31	29	22	31	26	19	33	826
April	51	35	58	30	43	38	42	36	42	38	22	29	33	30	30	15	29	34	28	30	32	31	24	24	804
May	31	45	38	23	31	40	40	35	38	46	11	28	37	34	25	27	29	31	22	34	22	16	21	23	727
June	54	58	39	34	39	42	47	39	37	46	19	49	40	42	33	25	26	14	20	24	36	17	22	17	819

July	61	58	44	41	36	33	46	41	42	44	21	35	23	21	35	30	23	33	25	26	32	15	27	32	824
August	38	57	41	42	35	39	46	41	32	42	27	33	39	24	30	21	22	16	35	21	26	14	31	27	779
September	42	45	49	37	33	42	44	48	39	36	25	37	52	39	23	27	31	30	30	17	26	20	29	21	822
October	63	51	51	41	32	50	41	45	43	36	26	31	30	29	23	42	13	37	24	26	20	24	26	22	826
November	48	45	27	36	33	39	45	41	48	25	19	29	39	33	21	24	30	34	20	20	21	24	25	28	754
December	40	46	35	35	32	32	27	36	34	29	22	32	28	33	36	26	16	20	21	26	17	20	30	20	693
total	569	575	534	416	408	464	515	489	476	479	269	386	423	384	324	334	300	338	295	298	316	256	291	306	9,445

Prefecture of fatal and non-fatal accidents in casting products in 1999-2022

Prefecture	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
Hokkaido	12	12	12		12		13	11	11	6	6	14	7	12	7	7	10	10	8	8	9	8	5	6	206
Aomori		3	1		1		4	1	2		2	2	2	4	1	1	1		2				1		28
Iwate	14	11	11		9		16	13	7	14	9	5	2	7	5	7	3	7	3	8	2	6	11	4	174
Miyagi	1		2		3		2			1	1		1						2	1	1		4	4	23
Akita	4	7	7		4		10	8	6	3	5	5	2	4	5		4	5	2	5	2	1	6	1	96
Yamagata	19	19	16		12		19	15	13	14	11	11	15	11	12	10	7	14	4	7	11	8	5	8	261
Fukushima	5	11	9		8		6	15	9	5	1	4	7	2	3	4	11	6	2	4	6	4	6	9	137
Ibaraki	6	4	12		3		5	5	9	7	2	11	4	8	5	7	1		8	3	1	3	1	7	112
Tochigi	5	7	3		4		6	6	2	8	7	5	2	3	4	1	1	2	6	7	2	3	2	5	91
Gunma	13	5	8		4		8	4	4	7	10	8	7	9	13	8	3	5	1	4	8	3	1	5	138

Saitama	62	85	49		40		48	36	44	41	21	32	39	22	28	31	27	20	25	25	22	26	25	24	772
Chiba	9	8	11		2		5	7	5	6	3	2	2	7	3	7	3	4	4	2	1	1	2	4	98
Tokyo	8	9	4		2		2	3	2	2	2	2	2	4				3			2	1	2		50
Kanagawa	5	8	9		5		7	7	10	6	2	3	1	3	1	3	4	2	10	6	2		3	1	98
Niigata	13	20	12		6		21	27	24	21	7	17	22	8	8	9	18	11	14	14	16	9	14	18	329
Toyama	13	6	19		3		7	20	6	14	3	15	9	2	6	4	5	3	1	6	7	5	2	3	159
Ishikawa	7	11	6		3		8	9	10	7	7	7	12	9	5	9	8	9	4	9	4	3	4	9	160
Fukui	3	3	4		4		2	1	2		1	2	2	1		1	5	3	2		2			1	39
Yamanashi	3	1	1		1		1	2	3	8	1	2	6		4	2	1	4		2	4	2			48
Nagano	3	9	12		1		4	6	4	11	3	4	3	6	4	4	6	6	4	3	6	3	2	6	110
Gifu	4	12	7		13		19	20	25	13	10	10	16	9	11	15	8	11	13	9	12	8	7	13	265
Shizuoka	25	30	27		20		22	24	25	23	8	15	34	22	19	22	22	18	18	20	15	13	16	15	453
Aichi	87	77	83		61		76	64	73	64	40	63	67	61	46	40	38	45	39	43	36	36	57	50	1,246
Mie	32	36	40		32		19	23	26	23	16	17	20	23	18	14	13	15	15	16	13	11	18	14	454
Shiga	3	4	1		9		3	6	4	2		2	3	2	7	2	3	4	6	2	6		2		71
Kyoto	9	4	6		4		8	3	1	6	1	6	4	1	1	4	3		1	2		2	1	3	70
Osaka	51	36	34		33		27	31	26	21	17	10	17	17	12	14	17	24	16	15	20	12	15	18	483
Hyogo	23	16	15		11		17	15	13	23	15	11	11	13	14	11	4	2	3	6	13	8	9	10	263
Nara	8	6	8		6		10	6	1	5	3	7	8	7	8	6	7	10	5	5	7	5	3	4	135
Wakayama		3	2				3	2	6	3	1	2	1	1	2	2	1		1	2	3	5	1	1	42
Tottori	1	2					3	2	3	1	1	1	2	1	3	2	2	3	1	2	1	1	1	1	34

Shimane	14	11	19		13		8	27	16	17	7	15	14	10	9	13	4	10	14	12	6	14	11	7	271
Okayama	11	11	14		11		20	16	15	26	10	15	29	32	13	16	13	16	18	16	17	14	10	13	356
Hiroshima	22	20	16		25		26	22	18	11	2	11	14	10	9	12	6	13	9	16	17	12	11	8	310
Yamaguchi	7	6	2		4		6	2	2	4	2	2		1	2		2	6		1	4	5		1	59
Tokushima								1	2				1	1		3	1	1					1	1	12
Kagawa	5	7	6		4		2	2	4	7	2	6	2	4		4	1		5		4	3	2	1	71
Ehime	10	9	5		9		10	5	12	15	3	6	6	8	6	11	8	11	4	1	2	7	9	5	162
Kochi	17	11	10		3		5	3	8	5	7	15	2	7	9	5	4	6	5	6	6	2	2	3	141
Fukuoka	18	24	17		12		12	11	10	19	9	14	21	16	8	12	11	19	9	7	16	5	13	7	290
Saga	3	2	1		2		6	3	6	1			1	2	4	1	2		3		3	4	1	9	54
Nagasaki	4	2	6		2		5	1	2	1	3	1		4	4	6	5	4	2	1	4		1		58
Kumamoto	1	3	7		5		10	3	3	3	1	4	2	6	5	2	5	4	5	1	1	2	2	6	81
Oita	5	1			2		4	1	1	3	6		1	3		1		1			1				30
Miyazaki	3																			1					4
Kagoshima	1	3																							4
Okinawa									1	2	1	2		1		1	2	1	1		1	1	2	1	17
total	569	575	534	416	408	464	515	489	476	479	269	386	423	384	324	334	300	338	295	298	316	256	291	306	9,445

Fatal and non-fatal accidents mean fatal and non-fatal injuries and occupational diseases with work absence of 4 days and more.

Data of 2022 year do not include Covid-19 cases. Data of 2020 & 2021 year include Covid-19 cases. Fatal and non-fatal data are same situation.

Data of 2011 year include fatal and non-fatal accidents caused by Great East Japan Earthquake in 2011.

drown																									
contact to high/low-temperature	2		5		2	1																		1	11
contact to harmful substance								2					1							1					4
electric shock								1		1										1					3
explosion																			1						1
burst																									
fire				1																					1
traffic accident (public road)																								1	1
traffic accident (others)																									
reaction to motion/improper motion																									
others																									
unclassifiable																									
total	5	1	11	5	7	1	1	8	1	4	3	1	5	5	1	2	2	3	4	1	1	1	2	3	78

Causal agents (large) of fatal accidents in casting products in 1999-2022

environment																									
high/cold temperature environment																									
other environments																									
other causal agent																									
no causal agent																									
unclassifiable															1										1
total	5	1	11	5	7	1	1	8	1	4	3	1	5	5	1	2	2	3	4	1	1	1	2	3	78

Workers age of fatal accidents in casting 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										1															1
20-29	1	1	1	1			1	1		1			1	1			1	1							11
30-39					1			1	1		1	1	1	1		1				1	1		1		11
40-49	1		3	2	1			1					2	2				1				1	1	2	17
50-59	3		5	2	5			4					1	1				1	4					1	27
60 years old or more			2			1		1		2	2				1	1	1								11
total	5	1	11	5	7	1	1	8	1	4	3	1	5	5	1	2	2	3	4	1	1	1	2	3	78

Workers' number of workplace of fatal accidents in casting 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	1		1		1	1		1			1		1					1		1					9
10-29			2	1			1	2					1		1		1		2		1	1			13
30-49			2	2	3			1		1			1	1				1						1	13
50-99	1		5		2			3	1	3	2	1	1			1		1	1				2		24
100-299	2	1	1	1	1								1	1		1	1		1					2	13
300 workers or more	1			1				1						3											6
total	5	1	11	5	7	1	1	8	1	4	3	1	5	5	1	2	2	3	4	1	1	1	2	3	78

Month of fatal accidents in casting products in 1999-2022

Month	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
January			4		2			1			1			1			1		1						11
February		1			1						1		1					1							5
March			1	1				2											1					1	6
April			1				1						1	1					1	1		1			7
May					1						1		1	2											5
June	1		1	1				1	1			1	1		1								1		9

Shimane			1										1				1					1	4		
Okayama													1										1		
Hiroshima							1													1	1		3		
Yamaguchi																									
Tokushima																									
Kagawa																									
Ehime															1								1		
Kochi																									
Fukuoka					1																		1		
Saga																									
Nagasaki											1												1		
Kumamoto																									
Oita																									
Miyazaki																									
Kagoshima																									
Okinawa																									
total	5	1	11	5	7	1	1	8	1	4	3	1	5	5	1	2	2	3	4	1	1	1	2	3	78

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

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