

Fatal and non-fatal accidents in casting products in Japan in 1999-2021

casting products industry Code No.011002

Type of accidents in casting products in 1999-2021

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	total	Type of accidents	
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	570	fall from height	
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	581	falling to same level	
crash	14	25	18	14	18	26	21	17	28	14	7	11	15	16	10	7	11	12	15	16	11	9	13	348	crash	
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	1,726	struck by flying or falling object	
collapse	19	24	24	13	19	20	22	21	22	16	14	19	18	16	13	17	15	12	12	17	14	8	18	393	collapse	
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	573	crashed by	
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	2,668	caught in/between	
cut	43	27	39	26	23	26	31	19	25	30	26	21	26	17	17	19	12	19	17	19	14	10	19	525	cut	
injury to the sole of the foot	3	2	1	1	1		1		2		1		1	2	1		2		1	2				21	injury to the sole of the foot	
drown																										drown
contact to high/low-temperature	67	76	60	56	42	54	45	61	46	55	25	43	58	43	37	41	26	52	32	29	39	33	22	1,042	contact to high/low-temperature	

machine			2		1		2		1		1			1		1			2	3				14	machine	
food manufacturing machine																										food manufacturing machine
printing machine																										printing machine
industrial robot			1											1										2	industrial robot	
other general power machines			37		21		27	29	36	34	19	29	22	22	18	14	8	23	16	18	21	9	14	417	other general power machines	
felling machine																										felling machine
mobile logging machine																										mobile logging machine
skyline yarding machine																										skyline yarding machine
other mobile silviculture machine																										other mobile silviculture machine
crane			42		38		55	47	41	41	23	24	34	36	28	25	23	27	24	30	24	22	28	612	crane	
mobile crane																					1			1		mobile crane
derrick crane																										derrick crane
elevator, lift					2					1			1	1	2	2	1				1	2			13	elevator, lift
cargo lifting appliance																										cargo lifting appliance
gondola													1												1	gondola
lumberyard equipment, logging cableway																										lumberyard equipment, logging cableway

simple skyline yarding equipment																									simple skyline yarding equipment	
other powered crane			2		1		1	6	3	2	2	2	1		2		4	1	1	3	3	1			35	other powered crane
truck			4		3		1	2	1	1	3	3	5	3	1	3	4	3	3	3	2	1	1		47	truck
forklift			12		9		8	6	20	11	3	9	12	8	3	8	7	7	7	7	10	6	7		160	forklift
railway equipment			2		1		1	1	2	1	1					3	2								14	railway equipment
conveyor			17		17		25	27	20	29	10	19	27	19	22	21	16	19	10	10	11	12	10		341	conveyor
loader																		1							1	loader
straddle carrier																										straddle carrier
rough terrain hauler																										rough terrain hauler
other powered conveying machines			2		6		3	5	5	6	4	3	6	4	3	2	2	1	3	2	5	3			65	other powered conveying machines
cars, bus, motorcycle			1					5	2					1			3	3	1		1	1	1		19	cars, bus, motorcycle
railway vehicle																										railway vehicle
other vehicles			1		1								1												3	other vehicles
boiler																										boiler
pressure vessel																										pressure vessel
other pressure vessels																				2					2	other pressure vessels
chemical facilities																										chemical facilities
gas welding								1	1	1	2	2			1	3	1					1			13	gas welding

facilities			22		15		22	17	17	13	9	18	14	12	13	12	6	16	9	7	9	9	18	258	facilities	
scaffolding						1						1				1	1			1				5	scaffolding	
timbering								1																1	timbering	
stairs, landing stage			8		6		4	4	8	7	3	2	1	6	4	1	3	5	7	3	3	3	1	79	stairs, landing stage	
opening			1			3	2	1	4			1	2			1	4			1	2	1		23	opening	
roof, beam, haze, crossbeam, principal rafter					2		3	1	3		2		1		1	1	1	1	3	1			1	21	roof, beam, haze, crossbeam, principal rafter	
working platform, boot board			4		3		7	7	7	7	3	6	9	8	5	3	4	5	3	5	5	3	4	98	working platform, boot board	
passage			18		4		14	18	14	9	15	6	14	7	10	10	7	14	16	11	17	11	9	224	passage	
building, establishment			3		7		3	4	5	5	1	5	4	6	2	3	3	2	2	3	5	7	3	73	building, establishment	
other temporary buildings, establishments			2		3		8	5	2	3	1	3	4	5	5	4		4	4	5	4	3	4	69	other temporary buildings, establishments	
explosive substance					1		1			2														4	explosive substance	
inflammable substance			3		5		9	7	4	8	1	5	4	3	3	2	4	5	3	2	5	2	3	78	inflammable substance	
inflammable gas							1				1					1	1		1			1		6	inflammable gas	
harmful substance					1		3	3	3		2	1	2	5		1	2	3	2	3			1	32	harmful substance	
radiation																										radiation
other hazards, harmful substances			4		6		2	4	4	2	1	1	3	2	3	2	3	2	6	5	1	1	1	53	other hazards, harmful substances	

metal material			106		75		97	94	99	102	44	73	62	73	63	66	50	51	42	55	55	49	49	1,305	metal material	
lumber, bamboo			3		4		2	2		2	2	1	1	1			3	5	2	1	2	3	2	36	lumber, bamboo	
stone, sand, substance			7		6		9	3	3	5	3	2	2	4	2	2	6	2	5	1			3	65	stone, sand, substance	
other materials			8		6		8	8	7	4	3	5	9	3	3	3	1	6	6	5	1	4	3	93	other materials	
load			24		19		20	12	10	21	7	12	10	9	13	14	11	10	9	12	11	11	12	247	load	
machine/equipment as load			5		3		5	5	2		1	1	3	2	1	1	1	4		1	1	2	3	41	machine/equipment as load	
natural ground, rock							1						1											2	natural ground, rock	
standing tree																				1				1	standing tree	
water									1				1											2	water	
abnormal environment											1					1								2	abnormal environment	
high/cold temperature environment			1		1		3	9	2	3	3	5	2	2	4	3	1	4	2	4	4	4	4	1	58	high/cold temperature environment
other environments			2				3	2	1		2	2	5	1	1	1	2	2	1	1				26	other environments	
other causal agent			2		3		6	4	2		2	1	6	1	2	3	1	3	1	1		3	13	54	other causal agent	
no causal agent			12		8		9	8	11	12	6	12	8	6	8	5	4	6	10	6	16	9	9	165	no causal agent	
unclassifiable			1		1								3	2	1		1			1				10	unclassifiable	
total			534		408		515	489	476	479	269	386	423	384	324	334	300	338	295	298	316	256	291	7,115	total	

Workers age of fatal and non-fatal accidents in casting products in 1999-2021

Age	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	total	Age
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	214	19 years old or less
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	1,662	20-29
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	1,839	30-39
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	1,890	40-49
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	2,189	50-59
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	1,345	60 years old or more
total	569	575	534	416	408	464	515	489	476	479	269	386	423	384	324	334	300	338	295	298	316	256	291	9,139	total

Workers' number of workplace of fatal and non-fatal accidents in casting products in 1999-2021

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	total	Workers scale
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	1,228	9 workers or less
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	3,014	10-29
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	1,889	30-49
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	1,692	50-99
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	1,014	100-299
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	302	300 workers or more
total	569	575	534	416	408	464	515	489	476	479	269	386	423	384	324	334	300	338	295	298	316	256	291	9,139	total

Month of fatal and non-fatal accidents in casting products in 1999-2021

Month	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	total	Month
January	41	48	40	34	28	34	37	41	41	40	28	28	35	27	24	36	26	32	18	32	25	30	22	747	January
February	53	46	59	27	29	28	59	42	45	47	26	23	34	38	25	31	22	26	23	20	28	19	15	765	February
March	47	41	53	36	37	47	41	44	35	50	23	32	33	34	19	30	33	31	29	22	31	26	19	793	March
April	51	35	58	30	43	38	42	36	42	38	22	29	33	30	30	15	29	34	28	30	32	31	24	780	April
May	31	45	38	23	31	40	40	35	38	46	11	28	37	34	25	27	29	31	22	34	22	16	21	704	May
June	54	58	39	34	39	42	47	39	37	46	19	49	40	42	33	25	26	14	20	24	36	17	22	802	June
July	61	58	44	41	36	33	46	41	42	44	21	35	23	21	35	30	23	33	25	26	32	15	27	792	July
August	38	57	41	42	35	39	46	41	32	42	27	33	39	24	30	21	22	16	35	21	26	14	31	752	August
September	42	45	49	37	33	42	44	48	39	36	25	37	52	39	23	27	31	30	30	17	26	20	29	801	September
October	63	51	51	41	32	50	41	45	43	36	26	31	30	29	23	42	13	37	24	26	20	24	26	804	October
November	48	45	27	36	33	39	45	41	48	25	19	29	39	33	21	24	30	34	20	20	21	24	25	726	November
December	40	46	35	35	32	32	27	36	34	29	22	32	28	33	36	26	16	20	21	26	17	20	30	673	December
total	569	575	534	416	408	464	515	489	476	479	269	386	423	384	324	334	300	338	295	298	316	256	291	9,139	total

Prefecture of fatal and non-fatal accidents in casting products in 1999-2021

Prefecture	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	total	Prefecture
Hokkaido	12	12	12		12		13	11	11	6	6	14	7	12	7	7	10	10	8	8	9	8	5	200	Hokkaido
Aomori		3	1		1		4	1	2		2	2	2	4	1	1	1		2				1	28	Aomori
Iwate	14	11	11		9		16	13	7	14	9	5	2	7	5	7	3	7	3	8	2	6	11	170	Iwate

Miyagi	1		2		3		2			1	1		1					2	1	1		4	19	Miyagi	
Akita	4	7	7		4		10	8	6	3	5	5	2	4	5		4	5	2	5	2	1	6	95	Akita
Yamagata	19	19	16		12		19	15	13	14	11	11	15	11	12	10	7	14	4	7	11	8	5	253	Yamagata
Fukushima	5	11	9		8		6	15	9	5	1	4	7	2	3	4	11	6	2	4	6	4	6	128	Fukushima
Ibaraki	6	4	12		3		5	5	9	7	2	11	4	8	5	7	1		8	3	1	3	1	105	Ibaraki
Tochigi	5	7	3		4		6	6	2	8	7	5	2	3	4	1	1	2	6	7	2	3	2	86	Tochigi
Gunma	13	5	8		4		8	4	4	7	10	8	7	9	13	8	3	5	1	4	8	3	1	133	Gunma
Saitama	62	85	49		40		48	36	44	41	21	32	39	22	28	31	27	20	25	25	22	26	25	748	Saitama
Chiba	9	8	11		2		5	7	5	6	3	2	2	7	3	7	3	4	4	2	1	1	2	94	Chiba
Tokyo	8	9	4		2		2	3	2	2	2	2	2	4				3			2	1	2	50	Tokyo
Kanagawa	5	8	9		5		7	7	10	6	2	3	1	3	1	3	4	2	10	6	2		3	97	Kanagawa
Niigata	13	20	12		6		21	27	24	21	7	17	22	8	8	9	18	11	14	14	16	9	14	311	Niigata
Toyama	13	6	19		3		7	20	6	14	3	15	9	2	6	4	5	3	1	6	7	5	2	156	Toyama
Ishikawa	7	11	6		3		8	9	10	7	7	7	12	9	5	9	8	9	4	9	4	3	4	151	Ishikawa
Fukui	3	3	4		4		2	1	2		1	2	2	1		1	5	3	2		2			38	Fukui
Yamanashi	3	1	1		1		1	2	3	8	1	2	6		4	2	1	4		2	4	2		48	Yamanashi
Nagano	3	9	12		1		4	6	4	11	3	4	3	6	4	4	6	6	4	3	6	3	2	104	Nagano
Gifu	4	12	7		13		19	20	25	13	10	10	16	9	11	15	8	11	13	9	12	8	7	252	Gifu
Shizuoka	25	30	27		20		22	24	25	23	8	15	34	22	19	22	22	18	18	20	15	13	16	438	Shizuoka
Aichi	87	77	83		61		76	64	73	64	40	63	67	61	46	40	38	45	39	43	36	36	57	1,196	Aichi
Mie	32	36	40		32		19	23	26	23	16	17	20	23	18	14	13	15	15	16	13	11	18	440	Mie
Shiga	3	4	1		9		3	6	4	2		2	3	2	7	2	3	4	6	2	6		2	71	Shiga
Kyoto	9	4	6		4		8	3	1	6	1	6	4	1	1	4	3		1	2		2	1	67	Kyoto

Osaka	51	36	34		33		27	31	26	21	17	10	17	17	12	14	17	24	16	15	20	12	15	465	Osaka
Hyogo	23	16	15		11		17	15	13	23	15	11	11	13	14	11	4	2	3	6	13	8	9	253	Hyogo
Nara	8	6	8		6		10	6	1	5	3	7	8	7	8	6	7	10	5	5	7	5	3	131	Nara
Wakayama		3	2				3	2	6	3	1	2	1	1	2	2	1		1	2	3	5	1	41	Wakayama
Tottori	1	2					3	2	3	1	1	1	2	1	3	2	2	3	1	2	1	1	1	33	Tottori
Shimane	14	11	19		13		8	27	16	17	7	15	14	10	9	13	4	10	14	12	6	14	11	264	Shimane
Okayama	11	11	14		11		20	16	15	26	10	15	29	32	13	16	13	16	18	16	17	14	10	343	Okayama
Hiroshima	22	20	16		25		26	22	18	11	2	11	14	10	9	12	6	13	9	16	17	12	11	302	Hiroshima
Yamaguchi	7	6	2		4		6	2	2	4	2	2		1	2		2	6		1	4	5		58	Yamaguchi
Tokushima								1	2				1	1		3	1	1					1	11	Tokushima
Kagawa	5	7	6		4		2	2	4	7	2	6	2	4		4	1		5		4	3	2	70	Kagawa
Ehime	10	9	5		9		10	5	12	15	3	6	6	8	6	11	8	11	4	1	2	7	9	157	Ehime
Kochi	17	11	10		3		5	3	8	5	7	15	2	7	9	5	4	6	5	6	6	2	2	138	Kochi
Fukuoka	18	24	17		12		12	11	10	19	9	14	21	16	8	12	11	19	9	7	16	5	13	283	Fukuoka
Saga	3	2	1		2		6	3	6	1			1	2	4	1	2		3		3	4	1	45	Saga
Nagasaki	4	2	6		2		5	1	2	1	3	1		4	4	6	5	4	2	1	4		1	58	Nagasaki
Kumamoto	1	3	7		5		10	3	3	3	1	4	2	6	5	2	5	4	5	1	1	2	2	75	Kumamoto
Oita	5	1			2		4	1	1	3	6		1	3		1		1			1			30	Oita
Miyazaki	3																			1				4	Miyazaki
Kagoshima	1	3																						4	Kagoshima
Okinawa									1	2	1	2		1		1	2	1	1		1	1	2	16	Okinawa
total	569	575	534		408		515	489	476	479	269	386	423	384	324	334	300	338	295	298	316	256	291	8,259	total

injury to the sole of the foot																									injury to the sole of the foot
drown																									drown
contact to high/low-temperature	2		5		2	1																	10	contact to high/low-temperature	
contact to harmful substance								2					1						1				4	contact to harmful substance	
electric shock							1		1											1			3	electric shock	
explosion																			1				1	explosion	
burst																								burst	
fire				1																			1	fire	
traffic accident (public road)																								traffic accident (public road)	
traffic accident (others)																								traffic accident (others)	
reaction to motion/improper motion																								reaction to motion/improper motion	
others																								others	
unclassifiable																								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	75	total

engine																								engine	
power transmission mechanism																1								1	power transmission mechanism
woodworking machine																									woodworking machine
construction machine																									construction machine
metal manufacturing machine			1					1		1	1					1								5	metal manufacturing machine
general machine			6	1					1	1		1			1	1	2				1			15	general machine
mobile silviculture machine																									mobile silviculture machine
crane	1		1	1	1			2		1				1									1	10	crane
conveying machine	2	1	2		2		1	1	1				2	2		1	1							17	conveying machine
vehicle																									vehicle
pressure vessel																									pressure vessel
chemical facilities																									chemical facilities
welding equipment					1																			1	welding equipment

kiln, caldron			1									1					1	1			4	kiln, caldron	
electric equipment							1															1	electric equipment
human power machine, tools																							human power machine, tools
tools	2			1						1												4	tools
other equipments, facilities									1	1												2	other equipments, facilities
temporary buildings, establishments				1			1															2	temporary buildings, establishments
hazards, harmful substances				1	1		2					1						1				6	hazards, harmful substances
materials				1	1							2										4	materials
load				1																1	2	load	
natural environment																							natural environment
other causal agent																							other causal agent
no causal agent																							no causal agent
unclassifiable													1									1	unclassifiable

pressure vessel																									pressure vessel
other pressure vessels																									other pressure vessels
chemical facilities																									chemical facilities
gas welding equipment																									gas welding equipment
arc welding equipment					1																			1	arc welding equipment
other welding equipment																									other welding equipment
kiln, caldron			1										1					1		1				4	kiln, caldron
industrial dryer																									industrial dryer
other kiln, caldron																									other kiln, caldron
transmission								1																1	transmission
electric power facilities																									electric power facilities
other electrical equipment																									other electrical equipment
human power cranes																									human power cranes
human power hauling equipment																									human power hauling equipment
human power machine																									human power machine

hand tool																									hand tool	
ladder										1															1	ladder
slinging tool				1																					1	slinging tool
other tools	2																								2	other tools
other equipment, facilities									1	1															2	other equipment, facilities
scaffolding																										scaffolding
timbering																										timbering
stairs, landing stage																										stairs, landing stage
opening																										opening
roof, beam, haze, crossbeam, principal rafter								1																	1	roof, beam, haze, crossbeam, principal rafter
working platform, boot board																										working platform, boot board
passage																										passage
building, establishment				1																					1	building, establishment
other temporary buildings, establishments																										other temporary buildings, establishments
explosive substance																										explosive substance
inflammable substance				1	1																				2	inflammable substance

no causal agent																									no causal agent	
unclassifiable																									1	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	75	total	

Workers age of fatal accidents in casting products in 1999-2021

Age	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	total	Age
19 years old or less										1														1	19 years old or less
20-29	1	1	1	1			1	1		1			1	1			1	1						11	20-29
30-39					1			1	1		1	1	1	1		1				1	1		1	11	30-39
40-49	1		3	2	1			1					2	2				1				1	1	15	40-49
50-59	3		5	2	5			4					1	1				1	4					26	50-59
60 years old or more			2			1		1		2	2				1	1	1							11	60 years old or more
total	5	1	11	5	7	1	1	8	1	4	3	1	5	5	1	2	2	3	4	1	1	1	2	75	total

Workers' number of workplace of fatal accidents in casting products in 1999-2021

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	total	Workers scale
9 workers or less	1		1		1	1		1			1		1					1		1				9	9 workers or less
10-29			2	1			1	2					1		1		1		2		1	1		13	10-29
30-49			2	2	3			1		1			1	1				1						12	30-49
50-99	1		5		2			3	1	3	2	1	1			1		1	1				2	24	50-99

100-299	2	1	1	1	1								1	1		1	1		1						11	100-299
300 workers or more	1			1					1					3											6	300 workers or more
total	5	1	11	5	7	1	1	8	1	4	3	1	5	5	1	2	2	3	4	1	1	1	2	75	total	

Month of fatal accidents in casting products in 1999-2021

Month	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	total	Month
January			4		2			1			1			1			1		1					11	January
February		1			1						1		1					1						5	February
March			1	1				2											1					5	March
April			1				1						1	1					1	1		1		7	April
May					1						1		1	2										5	May
June	1		1	1				1	1			1	1		1								1	9	June
July			1					1		2							1							5	July
August			2			1				1						1								5	August
September				1				1														1		3	September
October	1		1	2				2								1								7	October
November	1				3													1	1					6	November
December	2									1			1	1				1					1	7	December
total	5	1	11	5	7	1	1	8	1	4	3	1	5	5	1	2	2	3	4	1	1	1	2	75	total

Prefecture of fatal accidents in casting products in 1999-2021

Miyazaki																										Miyazaki	
Kagoshima																											Kagoshima
Okinawa																											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	75	total		

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

Return to https://www.jisha.or.jp/english/statistics/2021e_industry.html