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
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

contact to harmful																									contact to
		1	1	2	5	5	7	4	3		2	3	2	4	1	2	2	6	1	5		1	1	58	harmful
substance																									substance
electric shock	1	1	2				2	2		1	1				1	1		1		1	1			15	electric shock
explosion	2	4		1	1	2		2	3	4		2		4		1			2		4	4		36	explosion
burst		1		1				1											1					4	burst
fire	2			1	2	2	5	2	2	3	1	4			1	1	2	1	2		1	2	2	36	fire
traffic accident (public	1		1	3				3				1		1			4	3	1				1	19	traffic accident
road)	I			3				3				ľ						3					I		(public road)
traffic accident		1																	1					2	traffic accident
(others)																			_						(others)
reaction to																									reaction to
motion/improper	34	29	30	24	15	27	16	15	25	33	11	25	19	12	17	18	18	14	22	11	28	14	21	478	motion/improper
motion																									motion
others			3	1		1	1			1	2	1	2	1	2	1	1			3		3	13	36	others
unclassifiable	1	2						1					2				1			1				8	unclassifiable
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

Causal agents (large) of fatal and non-fatal accidents in casting products in 1999-2021

Causal (L) agents	1000	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2010	2020	2021	total	Causal (L)
Causar (L) agents		2000	2001	2002	2003	2004	2003	2000	2007	2000	2003	2010	2011	2012	2013	2014	2013	2010	2017	2010	2017	2020	2021		agents
machine	103	97	116	102	81	86	98	91	90	102	63	93	79	76	57	69	59	60	58	57	62	44	43	1,786	machine
crane, conveying																									crane,

machine	84	96	83	58	78	62	94	99	94	92	46	60	87	73	61	64	62	62	49	55	58	48	47	1,612	conveying
machine																									machine
athor aguinment	107	130	121	74	85	97	101	97	102	89	56	90	100	87	75	74	68	77	63	59	64	46	78	1,940	other
other equipment	107	130	121	/4	65	97	101	97	102	09	30	90	100	07	/3	/4	08		03	39	04	40	70		equipment
tompovom buildings																									temporary
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	755	buildings,
establistifferits																									establishments
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	2,268	substance,
substance, material	176	1/3	131	113	104	132	132	121	120	123	37	00	63	ופ	/4			/4	07	/ 2	04		02		material
load	29	31	29	17	22	23	25	17	12	21	8	13	13	11	14	15	12	14	9	13	12	13	15	388	load
environment	8	3	3	4	1	6	7	11	4	3	6	7	9	3	5	5	3	6	3	6	4	4	1	112	environment
others	18	7	15	13	12	11	15	12	13	12	8	13	17	9	11	8	6	9	11	8	16	12	22	278	others
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

Causal agents (middle) of fatal and non-fatal accidents in casting products in 1999-2021

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	total	Causal (M) agents
engine		1	1					1						1	1				1					6	engine
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	97	power transmission mechanism
woodworking machine	6	1	1	6	1	1	2	1	2	3	4	3	3	2		4	2		1			1	2	46	woodworking machine

construction machine			2	1				3																6	construction machine
metal manufacturing	47	49	59	47	47	43	53	52	45	53	32	45	43	41	30	33	36	30	29	28	35	27	23	927	metal manufacturing machine
general machine	47	44	50	39	30	36	39	29	39	40	25	37	28	29	20	28	16	26	22	25	24	14	17	704	general machine
mobile silviculture machine																									mobile silviculture machine
crane	39	48	44	28	41	38	56	53	44	44	25	26	36	38	32	27	28	28	25	33	29	25	28	815	crane
conveying machine	43	47	37	28	36	23	38	41	48	48	21	34	50	34	29	37	31	31	23	22	28	22	18	769	conveying machine
vehicle	2	1	2	2	1	1		5	2				1	1			3	3	1		1	1	1	28	vehicle
pressure vessel		1																		2				3	pressure vessel
chemical facilities																									chemical facilities
welding equipment			1	2	1	2	1	2	2	2	3	2	1	1	1	3	1	1			3		1	30	welding equipment
kiln, caldron	8	19	11	10	14	19	15	13	13	12	11	12	15	15	8	11	8	10	9	9	14	12	5	273	kiln, caldron
electric equipment		1	1		1		3	1	1		1	2			1	2	1	1		1				17	electric equipment
human power machine, tools	17	28	22	15	13	17	16	21	19	13	7	11	18	14	13	10	17	10	6	7	14	7	17	332	human power machine, tools
	17	28	22	15	13	17	16	21	19	13	7	11	18	14	13	10	17	10	6	7	14	7	17	332	

tools	62	63	64	38	41	36	44	43	50	49	25	45	52	45	39	36	35	39	39	33	24	18	37	957	tools
other equipments,	20	18	22	9	15	23	22	17	17	13	9	18	14	12	13	12	6	16	9	7	9	9	18		other equipments, facilities
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	755	temporary buildings, establishments
hazards, harmful substances	16	16	7	17	13	16	16	14	11	12	5	7	9	10	6	6	10	10	12	10	6	4	5	238	hazards, harmful substances
materials	162	157	124	96	91	116	116	107	109	113	52	81	74	81	68	71	60	64	55	62	58	56	57	2,030	materials
load	29	31	29	17	22	23	25	17	12	21	8	13	13	11	14	15	12	14	9	13	12	13	15	388	load
natural environment	8	3	3	4	1	6	7	11	4	3	6	7	9	3	5	5	3	6	3	6	4	4	1	112	natural environment
other causal agent	13	2	2	1	3	4	6	4	2		2	1	6	1	2	3	1	3	1	1		3	13	74	other causal
no causal agent	5	4	12	12	8	7	9	8	11	12	6	12	8	6	8	5	4	6	10	6	16	9	9	193	no causal agent
unclassifiable		1	1		1								3	2	1		1			1				11	unclassifiable
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

Causal agents (small) of fatal and non-fatal accidents in casting products in 1999-2021

Causal (S) agents	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	total	Causal (S) agents

engine		1			1						1	1				1					5	engine
power transmission mechanism		3	3	4	5	4	6	2	8	5	3	6	4	5	4	5	4	3	2	1	77	power transmission mechanism
circular sawing machine				1	1	2	2	4	1	2	2		2	2		1			1	2	23	circular sawing machine
band sawing machine							1			1											2	band sawing machine
wood planer machine				1					1												2	wood planer machine
hollow chisel mortiser, wood borer									1												1	hollow chisel mortiser, wood borer
chamfering machine, router, woodworking milling machine																						chamfering machine, router, woodworking milling machine
chain saw																						chain saw
other woodworking machines		1	1										2								4	other woodworking machines
leveling, transporting or loading machine		1			1																2	leveling, transporting or loading machine
excavating machine		1																			1	excavating machine
foundation work																						foundation work

<u> </u>	- ا		 	 												-						
hardening machine																						hardening machine
demolition machine					1																1	demolition machine
vehicle for high lift					1																1	vehicle for high lift
work									<u> </u>													work
other construction																						other construction
machines																						machines
lathe		6	6	3	6	2	3	4	2	3	2	2	1	5	2	2	5	1	2		57	lathe
drill press, milling		4		2		5				4	4			5					,	1	49	drill press, milling
machine		4	2	3		3		2	3	4	4	4	2	3	2			3	3			machine
grinding machine,		27	18	23	21	18	27	10	21	19	16	12	15	15	14	14	14	18	13	12	327	grinding machine,
buffing machine		21	10	23	21	10	27	10	21	19	10	12	13	13	14	14	14	10	13	12	327	buffing machine
power press		4		5	4	1	2	1	2	2	4	1	3		1	1	2	2		1	36	power press
forging pressure		1			1			1		1	1									1	13	forging pressure
hammer		1	2	I		2		ľ			ı					ľ					13	hammer
shearing machine						2															2	shearing machine
other metal																						other metal
manufacturing		17	19	18	19	15	20	14	16	14	14	11	12	11	11	11	7	11	9	8	257	manufacturing
machines																						machines
centrifugal machine											1		2	1					1		5	centrifugal machine
mixer, grinder		10	7	10		2	5	5	8	6	5	2	10	7	3	4	4	3	4	3	98	mixer, grinder
roll machine (except																						roll machine (except
printingroll			1				1														2	printingroll
machine)																						machine)
injection molding																						injection molding

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																						other mobile
silviculture machine																						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																						cargo lifting appliance
gondola											1										1	gondola
lumberyard																						lumberyard
equipment, logging																						equipment, logging
cableway																						cableway

	 	<u> </u>	إ		$\sqsubseteq$	<u> </u>	<u> </u>	<u> </u>	ــــــــالِــــــــــــــــــــــــــــ	<u> </u>		<u> </u>	<u> </u>	<u> </u>		4	_							
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
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

equipment																						equipment
arc welding equipment	1		1	1		1		1		1					1					1	8	arc welding equipment
other welding equipment					1		1				1							2			5	other welding equipment
kiln, caldron	11	ı	13	14	12	11	10	8	12	15	12	6	11	6	9	9	8	14	11	5	197	kiln, caldron
industrial dryer						1	1	1			3	1									7	industrial dryer
other kiln, caldron			1	1	1	1	1	2				1		2	1		1		1		13	other kiln, caldron
transmission				2	1							1									4	transmission
electric power facilities						1			1												2	electric power facilities
other electrical equipment	1		1	1				1	1				2	1	1		1				10	other electrical equipment
human power cranes	2		2	1	1		1		1	2				3				2			15	human power cranes
human power hauling equipment	7		3	3	8	6	3	2	5	6	4	6	3	5		2	5	6	2	6	82	human power hauling equipment
human power	2					1	1												1		5	human power machine
hand tool	11	1	8	12	12	12	8	5	5	10	10	7	7	9	10	4	2	6	4	11	153	hand tool
ladder	6		7	2	8	12	9	7	7	5	3	3	1	6	7	4	4		7	9	107	ladder
slinging tool	31	I	20	30	21	17	21	7	18	28	25	20	21	15	15	17	14	14	6	13	353	slinging tool
other tools	27	7	14	12	14	21	19	11	20	19	17	16	14	14	17	18	15	10	5	15	298	other tools
other equipment,																						other equipment,

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,		4	6	2	4	4	2	1	1	3	2	3	2	3	2	6	5	1	1	1	53	other hazards,

							<u> </u>	<u> </u>	<u> </u>	<u> </u>				<u> </u>	<u> </u>				<u> </u>			
metal material	1	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	3	4	2	2		2	2	1	1	1			3	5	2	1	2	3	2	36	lumber, bamboo
stone, sand, substance	7	7	6	9	3	3	5	3	2	2	4	2	2	6	2	5	1			3	65	stone, sand, substance
other materials	[	3	6	8	8	7	4	3	5	9	3	3	3	1	6	6	5	1	4	3	93	other materials
load	2	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	5	3	5	5	2		1	1	3	2	1	1	1	4		1	1	2	3	41	machine/equipment as load
natural ground,				1						1											2	natural ground,
standing tree																	1				1	standing tree
water						1				1											2	water
abnormal environment								1					1								2	abnormal environment
high/cold temperature environment	1	1	1	3	9	2	3	3	5	2	2	4	3	1	4	2	4	4	4	1	58	high/cold temperature environment
other environments	2	2		3	2	1		2	2	5	1	1	1	2	2	1	1				26	other environments
other causal agent	2	2	3	6	4	2		2	1	6	1	2	3	1	3	1	1		3	13	54	other causal agent
no causal agent	1	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	5	534	408	515	489	476	479	269	386	423	384	324	334	300	338	295	298	316	256	291	7,115	total

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	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	34	103	67			80	/ 3		70	08	43	08		50	40	40		43	42				40	'	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	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													J2											302	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	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
lwate	14	11	11		9		16	13	7	14	9	5	2	7	5	7	3	7	3	8	2	6	11	170	lwate

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

Fatal and non-fatal accidents mean fatal and non-fatal injuries and occupational diseases with work absence of 4 days and more. Data of 2011 year include fatal and non-fatal accidents caused by Great East Japan Earthquake in 2011.

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

Return to <a href="https://www.jisha.or.jp/english/statistics/2021e\_industry.html">https://www.jisha.or.jp/english/statistics/2021e\_industry.html</a>

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Fatal accidents in casting products in Japan in 1999-2021

casting products industry Code No.011002

Type of fatal 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				2				1		1	1			2		1								8	fall from height
falling to same level		1	1										1		1									4	falling to same level
crash																									crash
struck by flying or falling object			1		2					1			2										2	8	struck by flying or falling object
collapse			1		1			1										1						4	collapse
crashed by	1												1			1								3	crashed by
caught in/between	2		3	2	2		1	3	1	1	2	1	1	2			2	2	3			1		29	caught in/between
cut																									cut

injury to the sole of the foot  drown  contact to high/low-temperature  2  5  2  1																		of the foot drown contact to
contact to high/low-																		drown
contact to high/low-																		
																		contact to
														11	1	ı	1	contact to
																	10	high/low-
		II I																temperature
contact to harmful	11																	contact to
substance	2						1						1				4	harmful
																		substance
electric shock	1		1											1			3	electric shock
explosion												1					1	explosion
burst																		burst
fire 1																	1	fire
traffic accident (public																		traffic accident
road)																		(public road)
traffic accident (others)																		traffic accident
traffic accident (others)																		(others)
reaction to																		reaction to
motion/improper																		motion/improper
motion																		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

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	total	Causal (L) agents
machine			7	1				1		2	2		1			1	1	2	2			1		21	machine
crane, conveying machine	3	1	3	1	3		1	3	1	1			2	3		1	1	1	1				1	27	crane, conveying machine
other equipment	2		1		2			1		1	1	1		1					1		1			12	other equipment
temporary buildings, establishments				1				1																	temporary buildings, establishments
substance, material				2	1	1		2					2	1						1				10	substance, material
load					1																		1	2	load
environment																									environment
others															1									1	others
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

Causal agents (middle) of fatal accidents in casting products in 1999-2021

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	total	Causal (M)
edusur (M) ugents		2000	2001	2002	2003	2001	2003	2000	2007	2000	2005	2010	2011	2012	2013	2011	2013	2010	2017	2010	2017	2020	2021	l 1	agents

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				1	10	crane
conveying machine	2	1	2		2	1	1	1			2	2	1	1		1				17	conveying machine
vehicle																					vehicle
pressure vessel																					pressure vessel
chemical facilities																					chemical facilities
welding equipment					1															1	welding equipment

							1	<u> </u>	]	<u> </u>	<u> </u>			 	 <u> </u>	<u> </u>	1				<u> </u>
kiln, caldron		1										1			1		1			4	kiln, caldron
electric equipment						1														1	electric equipment
human power machine,																					human power
tools																					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

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	
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Causal agents (small) of fatal accidents in casting products in 1999-2021

Causal (S) agents	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	total	Causal (S) agents
engine																									engine
power transmission mechanism																		1						1	power transmission mechanism
circular sawing machine																									circular sawing machine
band sawing machine																									band sawing machine
wood planer machine																									wood planer machine
hollow chisel mortiser, wood borer																									hollow chisel mortiser, wood borer
chamfering machine, router, woodworking milling machine																									chamfering machine, router, woodworking milling machine
chain saw																									chain saw
other woodworking																									other woodworking

leveling,															leveling,
transporting or															transporting or
loading machine															loading machine
excavating machine															excavating machine
foundation work															foundation work
machine															machine
hardening machine															hardening machine
demolition machine															demolition machine
vehicle for high lift															vehicle for high lift
work															work
other construction															other construction
machines															machines
lathe		1												1	lathe
drill press, milling							1							1	drill press, milling
machine							1							ľ	machine
grinding machine,						1								1	grinding machine,
buffing machine						1								ľ	buffing machine
power press															power press
forging pressure															forging pressure
hammer															hammer
shearing machine															shearing machine
other metal															other metal
manufacturing					1					1				2	manufacturing
machines															machines

centrifugal machine		4																	4	centrifugal machine
mixer, grinder		1											1				1		3	mixer, grinder
roll machine (except printingroll machine)																				roll machine (except printingroll machine)
injection molding machine		1													1				2	injection molding machine
food manufacturing machine																				food manufacturing
printing machine																				printing machine
industrial robot																				industrial robot
other general power machines			1					1	1		1			1	1				6	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	1	1	1	1		2		1						1				1	9	crane
mobile crane																				mobile crane
derrick crane																				derrick crane
elevator, lift																				elevator, lift
							$\overline{}$			$\overline{}$										1

cargo lifting																	cargo lifting
appliance																	appliance
gondola										1						1	gondola
lumberyard																	lumberyard
equipment, logging																	equipment, logging
cableway																	cableway
simple skyline																	simple skyline
yarding equipment																	yarding equipment
other powered																	other powered
crane																	crane
truck																	truck
forklift		1	1						2		1	1				6	forklift
railway equipment				1												1	railway equipment
conveyor	2			1	1	1	1			2			1			9	conveyor
loader																	loader
straddle carrier																	straddle carrier
rough terrain hauler																	rough terrain hauler
other powered			1														other powered
conveying machines			ľ														conveying machines
cars, bus,																	cars, bus,
motorcycle																	motorcycle
railway vehicle																	railway vehicle
other vehicles																	other vehicles
boiler																	boiler

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pressure vessel																pressure vessel
other pressure																other pressure
vessels																vessels
chemical facilities																chemical facilities
gas welding																gas welding
equipment																equipment
arc welding			1													arc welding
equipment			1													equipment
other welding																other welding
equipment																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																electric power
facilities																facilities
other electrical																other electrical
equipment																equipment
human power																human power
cranes																cranes
human power																human power
hauling equipment																hauling equipment
human power																human power
machine																machine

hand tool																hand tool
ladder								1							1	ladder
slinging tool				1											1	slinging tool
other tools	2														2	other tools
other equipment,							1		1						2	other equipment,
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

<u> </u>	 	 		 		 	 			 	 	 	 			4
inflammable gas																inflammable gas
harmful substance					2				1			1			4	harmful substance
radiation																radiation
other hazards,																other hazards,
harmful substances																harmful substances
metal material		1	1					1							3	metal material
lumber, bamboo																lumber, bamboo
stone, sand,								1							1	stone, sand,
substance								ı								substance
other materials																other materials
load			1											1	2	load
machine/equipment																machine/equipment
as load																as load
natural ground,																natural ground,
rock																rock
standing tree																standing tree
water																water
abnormal																abnormal
environment																environment
high/cold																high/cold
temperature																temperature
environment																environment
other environments																other environments
other causal agent																other causal agent

no causal agent																									no causal agent
unclassifiable															1									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			2			1		1		2	2				1	1	1							11	60 years old or
more																									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	1			1				1						2											300 workers or
more	1			I				1						3											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	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			1		1														1					3	Hokkaido
Aomori																									Aomori
lwate																		1						1	lwate
Miyagi			1																					1	Miyagi
Akita												1												1	Akita
Yamagata																									Yamagata
Fukushima																									Fukushim
Ibaraki	1		2																					3	Ibaraki
Tochigi													1											1	Tochigi
Gunma															1									1	Gunma
Saitama					1	1		1					1			1			1				1	7	Saitama
Chiba														1										1	Chiba
Tokyo																									Tokyo
Kanagawa																									Kanagawa
Niigata								1					1											2	Niigata
Toyama																									Toyama
Ishikawa				1					1															2	Ishikawa
Fukui																									Fukui
Yamanashi										1														1	Yamanasl
Nagano																									Nagano
Gifu				1				1		1									1	1				5	Gifu

Shizuoka	2			1												1			4	Shizuoka
Aichi		1			3	1	2				1	1	1						10	Aichi
Mie	1		1				1				1								4	Mie
Shiga					1														1	Shiga
Kyoto								1											1	Kyoto
Osaka									2					1					3	Osaka
Hyogo	1		5	1			1	1		1	1								11	Hyogo
Nara														1					1	Nara
Wakayama				1															1	Wakayama
Tottori																				Tottori
Shimane			1								1				1				3	Shimane
Okayama										1									1	Okayama
Hiroshima							1										1	1	3	Hiroshima
Yamaguchi																				Yamaguchi
Tokushima																				Tokushima
Kagawa																				Kagawa
Ehime													1						1	Ehime
Kochi																				Kochi
Fukuoka					1														1	Fukuoka
Saga																				Saga
Nagasaki									1										1	Nagasaki
Kumamoto																				Kumamoto
Oita																				Oita

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: <a href="https://anzeninfo.mhlw.go.jp/user/anzen/tok/anst00.htm">https://anzeninfo.mhlw.go.jp/user/anzen/tok/anst00.htm</a> (MHLW, Japan)

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