

Fatal and non-fatal accidents in optical instruments in Japan in 1999-2021

optical instruments industry Code No.011303

Type of accidents in optical instruments 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	7	3	3	4	2	3	3	5	6	8	4	5	5	5	2	4	5	3	5	4	4	3	6	99	fall from height
falling to same level	9	8	7	11	15	11	13	12	11	17	3	5	11	12	18	11	10	12	14	12	17	16	11	266	falling to same level
crash	2	4	2	7	1	3	1	3	1	3	5	1	5	4	1	3	5	3	2	1	2	1	2	62	crash
struck by flying or falling object	3	6	5	2	5	5	2	5	2	4	2	2	1	2				2	1	2	4	2	1	58	struck by flying or falling object
collapse		2	1	1		1		2		1			1	2	1	1	1		1	1			1	17	collapse
crashed by	4	2	1			1	2			3	1	1	1	3			3		1	4	1	1		29	crashed by
caught in/between	24	26	23	25	19	29	25	23	22	16	6	9	12	12	6	12	4	8	10	11	9	7	3	341	caught in/between
cut	2	6	3	13	8	7	11	10	8	7	5	3	7	7	4	1	2	6	4	2	5	1	4	126	cut
injury to the sole of the foot		1																						1	injury to the sole of the foot
drown												1												1	drown
contact to high/low-temperature	1	2	3	1	1		1	3	2		2			2		1	2		1				2	25	contact to high/low-temperature

construction machine																										construction machine
metal manufacturing machine	20	19	7	19	10	18	21	15	12	7	5	4	10	6	5	7	4	6	4	7	8	5	4	223	metal manufacturing machine	
general machine	8	10	15	18	8	7	9	18	12	10	2	5	5	7	2	3	2	3	6	4	9	3	3	169	general machine	
mobile silviculture machine																										mobile silviculture machine
crane		1	1			2				1											1			6	crane	
conveying machine	1		3	1		1		2	1	1	1	2		1		3	1		1			1		20	conveying machine	
vehicle			1	1	2	3	2			3	2	9	2			2		1	2	2	1		1	34	vehicle	
pressure vessel																										pressure vessel
chemical facilities				1							1													2	chemical facilities	
welding equipment						1					1													2	welding equipment	
kiln, caldron	1		1		1																			3	kiln, caldron	
electric equipment		1			1												1							3	electric equipment	
human power machine, tools	3	4	1	2	5	4	6	3	4	2	1		1	3	2	1	2	1	4	3	2		3	57	human power machine, tools	

machine			1																1				2	machine
food manufacturing machine																					1		1	food manufacturing machine
printing machine				1																			1	printing machine
industrial robot						1		1	1														3	industrial robot
other general power machines			14	7		7	17	11	9	2	5	5	7	2	3	2	3	6	3	9	2	3	117	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			2	crane
mobile crane																								mobile crane
derrick crane																								derrick crane
elevator, lift									1														1	elevator, lift
cargo lifting appliance																								cargo lifting appliance
gondola																								gondola
lumberyard equipment, logging																								lumberyard equipment, logging

gas welding equipment																									gas welding equipment
arc welding equipment									1															1	arc welding equipment
other welding equipment																									other welding equipment
kiln, caldron				1																			1	kiln, caldron	
industrial dryer																									industrial dryer
other kiln, caldron			1																				1	other kiln, caldron	
transmission																									transmission
electric power facilities																									electric power facilities
other electrical equipment				1										1									2	other electrical equipment	
human power cranes																									human power cranes
human power hauling equipment			1	2		5	1	2	1				2			2		4	2	1		2	25	human power hauling equipment	
human power machine																									human power machine
hand tool				3		1	2	2	1	1		1	1	2	1		1		1	1		1	19	hand tool	
ladder				1			7	3	3	1		4	3	1		1	1	1	1	3		4	34	ladder	
slinging tool																				1	1		2	slinging tool	
other tools			1	1		4		1	6	2	3		4	1	1	3	1	1	5	1	3		38	other tools	

harmful substances												1				2			1	1			5	harmful substances	
metal material			3		2		1	4	2	1		3	4	3	1	1	3	1	2	2	2	1	1	37	metal material
lumber, bamboo																					1			1	lumber, bamboo
stone, sand, substance																								1	stone, sand, substance
other materials			2		3		5		3	2	1		3	1	2	1		2	2					27	other materials
load			2		2		2	2	2	3	3	1	3	2	2		3	2	2	3	2		3	39	load
machine/equipment as load			1		1			1	2	3		1		2		1		1			1		1	15	machine/equipment as load
natural ground, rock																									natural ground, rock
standing tree																									standing tree
water																									water
abnormal environment																									abnormal environment
high/cold temperature environment												1												1	high/cold temperature environment
other environments			2				1	2	1	1	2		2	3	1	2		1	2	2	3	1	1	27	other environments
other causal agent							1	1	1	3	1		1					1	1		3	9		22	other causal agent
no causal agent					3			3	7	3	5	1	3	1	4	3	5	2		3	2	3	4	52	no causal agent
unclassifiable												1												1	unclassifiable
total			54		61		68	74	73	72	38	40	58	51	38	38	41	42	45	47	54	43	43	980	total

Workers age of fatal and non-fatal accidents in optical instruments 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	4	6	3	2	1	2	1		2	2	3	2					1	2		2			34	19 years old or less
20-29	16	12	12	17	18	14	18	25	19	11	5	9	16	9	2	4	9	7	8	9	8	2	7	257	20-29
30-39	9	18	8	14	13	18	11	20	24	21	9	11	16	14	6	12	4	9	13	10	7	5	1	273	30-39
40-49	12	18	10	13	10	17	12	13	12	15	11	3	10	7	14	7	9	9	13	12	17	8	11	263	40-49
50-59	13	18	13	17	13	14	18	8	11	18	8	10	10	16	14	12	11	13	4	12	14	21	14	302	50-59
60 years old or more	6	3	5	7	5	8	7	7	7	5	3	4	4	5	2	3	8	3	5	4	6	7	10	124	60 years old or more
total	57	73	54	71	61	72	68	74	73	72	38	40	58	51	38	38	41	42	45	47	54	43	43	1,253	total

Workers' number of workplace of fatal and non-fatal accidents in optical instruments 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	20	17	8	7	10	17	12	10	10	3	4	5	5	9	2	2	6		2	3	3	3	5	163	9 workers or less
10-29	8	12	15	12	17	14	14	15	7	13	5	4	7	8	5	4	4	5	5	7	8	6	4	199	10-29
30-49	5	8	7	13	6	10	10	16	3	5	3	3	8	8	3	5	4	7	7	4	10	3	5	153	30-49
50-99	6	8	9	10	7	12	4	4	13	17	11	4	10	4	7	5	7	6	9	6	6	4	3	172	50-99
100-299	13	18	8	23	10	12	16	14	22	22	9	19	11	8	9	7	9	13	10	17	7	10	15	302	100-299
300 workers or more	5	10	7	6	11	7	12	15	18	12	6	5	17	14	12	15	11	11	12	10	20	17	11	264	300 workers or more

total	57	73	54	71	61	72	68	74	73	72	38	40	58	51	38	38	41	42	45	47	54	43	43	1,253	total
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Month of fatal and non-fatal accidents in optical instruments 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	2	4	6	5	7	6	6	6	5	8	5	6	9	6	3	4	2	5	2	4	6	4	5	116	January
February	15	9	8	3	4	10	9	7	8	13	1	1	8	7	5	5	3	4	4	6	6	1	4	141	February
March	4	3	5	8	2	5	5	6	8	4	4	1	7	6	3	2	8	1	2	3	6	2	2	97	March
April	5	4	5	7	6	3	6	4	5	5	4	1	5	4	6	4	2		6	7	3	6	3	101	April
May	1	6	3	8	7	7	3	3	6	5	4	1	3	2	1	2	2	2	3	2	3	5	4	83	May
June	4	7	4	3	10	4	3	3	4	3		3	5	3	2	4	3	5	7	1	5	3	7	93	June
July	2	7	2	4	3	6	8	9	6	7	3	3	2	3	4	2	4	1	2	5	6	2	3	94	July
August	4	9	6	8	6	9	7	6	11	7	4	4	3	4		3	4	7	3	5	6	2	3	121	August
September	3	5	8	13	10	6	9	10	2	9	5	5	4	5	4	4	4	2	3	2	2	1	2	118	September
October	7	6	5	3	3	7	4	7	5	6	2	1	1	5	4	2	3	6	1	5	3	5	4	95	October
November	4	6		3	1	6	4	6	6	1	4	12	5	4	2	3	4	4	5	4	4	9	3	100	November
December	6	7	2	6	2	3	4	7	7	4	2	2	6	2	4	3	2	5	7	3	4	3	3	94	December
total	57	73	54	71	61	72	68	74	73	72	38	40	58	51	38	38	41	42	45	47	54	43	43	1,253	total

Prefecture of fatal and non-fatal accidents in optical instruments 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											1		1				1					1		4	Hokkaido

Okinawa																									Okinawa
total	57	73	54		61		68	74	73	72	38	40	58	51	38	38	41	42	45	47	54	43	43	1,110	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: <https://anzeninfo.mhlw.go.jp/user/anzen/tok/anst00.htm> (MHLW, Japan)

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Fatal accidents in optical instruments in Japan in 1999-2021

optical instruments industry Code No.011303

Type of fatal accidents in optical instruments 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																						1			1	fall from height	
falling to same level																											falling to same level
crash																											crash
struck by flying or falling object			1																							1	struck by flying or falling object
collapse																											collapse
crashed by		1																								1	crashed by

																									agent		
no causal agent															1										1	no causal agent	
unclassifiable																										unclassifiable	
total		1	1			2									1									1		6	total

Causal agents (small) of fatal accidents in optical instruments 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																											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																											chamfering machine, router, woodworking

shearing machine																							shearing machine	
other metal manufacturing machines	1																						1	other metal manufacturing machines
centrifugal machine																								centrifugal machine
mixer, grinder																								mixer, grinder
roll machine (except printingroll machine)																								roll machine (except printingroll machine)
injection molding machine																								injection molding machine
food manufacturing machine																								food manufacturing machine
printing machine																								printing machine
industrial robot																								industrial robot
other general power machines																								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

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			2	9 workers or less	
10-29		1																						1	10-29	
30-49																										30-49
50-99																										50-99
100-299						1									1									2	100-299	
300 workers or more			1																					1	300 workers or more	
total		1	1			2									1						1			6	total	

Month of fatal accidents in optical instruments 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						1																		1	January	
February																										February
March																					1			1	March	
April																										April
May																										May
June		1																						1	June	
July			1																					1	July	
August																										August
September															1									1	September	
October						1																		1	October	

Fukuoka																							Fukuoka		
Saga																							Saga		
Nagasaki																							Nagasaki		
Kumamoto																							Kumamoto		
Oita																							Oita		
Miyazaki																							Miyazaki		
Kagoshima																							Kagoshima		
Okinawa																							Okinawa		
total		1	1			2								1								1		6	total

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

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