

Fatal and non-fatal accidents in other metal products in Japan in 1999-2021

other metal products industry Code No.011209

Type of accidents in other metal 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	616	704	675	595	549	523	531	537	493	465	444	379	384	389	337	371	335	324	351	380	340	332	310	10,364	fall from height
falling to same level	541	510	552	491	524	465	479	473	462	419	388	346	368	348	341	348	348	386	330	382	359	349	381	9,590	falling to same level
crash	298	323	260	244	211	203	226	220	262	218	169	151	163	135	142	155	161	113	148	155	147	130	172	4,406	crash
struck by flying or falling object	1,153	1,135	1,044	877	919	875	852	844	807	809	625	545	587	587	560	544	564	570	545	546	450	402	470	16,310	struck by flying or falling object
collapse	305	330	309	282	272	261	262	272	261	244	195	194	185	174	157	183	183	167	153	161	156	150	114	4,970	collapse
crashed by	411	367	392	374	325	319	318	301	330	314	216	250	207	200	186	208	219	187	226	228	207	180	189	6,154	crashed by
caught in/between	2,429	2,435	2,311	2,037	2,130	2,022	1,816	1,888	1,826	1,643	1,290	1,267	1,276	1,283	1,203	1,287	1,186	1,160	1,149	1,160	1,129	992	1,015	35,934	caught in/between
cut	621	599	549	448	452	487	393	406	454	394	303	308	287	278	336	279	285	265	251	280	270	242	245	8,432	cut
injury to the sole of the foot	10	9	10	16	8	5	12	12	7	14	5	10	8	6	10	8	9	10	8	5	6	6	3	197	injury to the sole of the foot
drown		1		1									12					1						15	drown
contact to high/low-temperature	86	120	77	66	60	72	52	65	75	86	59	63	75	73	81	73	57	72	69	76	79	90	49	1,675	contact to high/low-temperature
contact to harmful	21	21	22	16	20	25	14	23	25	15	14	20	16	10	21	10	25	7	14	18	18	13	8	396	contact to harmful

substance																									substance
electric shock	8	7	5	4	6	4	8	2	4	7	7	7	7	5	6	1	5	6	4	8	3	1		115	electric shock
explosion	10	8	5	7	16	1	10	7	11	6	6	4	3	4	4	10	2	2		3	3	3	2	127	explosion
burst	8	2	7	2	4	3	1	8	5	5	1	3	2	1		2	6	3	2	3	1	4	2	75	burst
fire	8	4	6	8	5	12	6	8	8	11	13	8	1	7	15	7	7	4	5	7	2	3	1	156	fire
traffic accident (public road)	55	49	44	37	40	34	33	43	32	27	23	33	27	37	22	25	17	26	33	31	22	25	22	737	traffic accident (public road)
traffic accident (others)	4		1			1	2	3	4					1	1	1								18	traffic accident (others)
reaction to motion/improper motion	353	350	338	329	337	304	328	346	341	321	235	233	254	208	237	244	245	228	237	230	256	217	264	6,435	reaction to motion/improper motion
others	27	20	18	10	15	14	15	20	16	16	10	3	14	14	13	7	5	12	6	19	9	16	212	511	others
unclassifiable	3	7	1	3	2	3	2	5	5	4	1	1	2	3	4	3	2	6	7	2		2	5	73	unclassifiable
total	6,967	7,001	6,626	5,847	5,895	5,633	5,360	5,483	5,428	5,018	4,004	3,825	3,878	3,763	3,676	3,766	3,661	3,549	3,538	3,694	3,457	3,157	3,464	106,690	total

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

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	2,109	2,160	2,026	1,740	1,840	1,781	1,586	1,639	1,635	1,440	1,081	1,134	1,124	1,112	1,106	1,083	1,051	986	954	994	998	843	861	31,283	machine
crane, conveying machine	877	908	864	821	804	736	757	759	736	689	570	571	533	540	507	560	500	502	562	540	503	482	525	14,846	crane, conveying machine
other equipment	974	1,024	981	817	853	836	843	842	894	815	674	600	596	566	582	575	589	600	558	584	593	509	541	16,446	other

																										equipment
temporary buildings, establishments	558	578	616	539	534	507	518	538	482	497	410	377	426	386	348	379	381	366	373	414	368	373	372	10,340	temporary buildings, establishments	
substance, material	1,936	1,780	1,694	1,501	1,416	1,413	1,283	1,305	1,261	1,206	964	857	844	881	837	870	838	803	811	843	708	675	677	25,403	substance, material	
load	289	346	264	254	273	224	207	226	258	213	160	147	174	141	140	149	173	138	128	130	148	116	136	4,434	load	
environment	36	26	33	25	20	23	22	26	26	24	17	39	61	35	37	33	20	38	39	64	25	54	24	747	environment	
others	188	179	148	150	155	113	144	148	136	134	128	100	120	102	119	117	109	116	113	125	114	105	328	3,191	others	
total	6,967	7,001	6,626	5,847	5,895	5,633	5,360	5,483	5,428	5,018	4,004	3,825	3,878	3,763	3,676	3,766	3,661	3,549	3,538	3,694	3,457	3,157	3,464	106,690	total	

Causal agents (middle) of fatal and non-fatal accidents in other metal 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	4	5	4		1	2	1		1	3		1		1			1				1	1	2	28	engine
power transmission mechanism	35	32	19	24	25	25	24	29	30	26	20	23	14	16	16	18	20	11	13	11	9	10	9	459	power transmission mechanism
woodworking machine	48	43	37	30	34	43	34	32	33	25	21	25	24	14	25	21	21	20	19	17	25	16	17	624	woodworking machine
construction machine	11	13	14	17	10	10	17	9	12	11	6	10	4	7	9	9	5	5	15	6	6	10	9	225	construction machine
metal manufacturing machine	1,783	1,843	1,685	1,439	1,515	1,468	1,312	1,382	1,342	1,193	873	890	936	950	906	893	848	818	774	813	811	697	704	25,875	metal manufacturing machine

general machine	228	224	267	230	255	233	198	187	217	182	161	185	146	124	150	142	156	132	133	147	146	109	120	4,072	general machine	
mobile silviculture machine																										mobile silviculture machine
crane	452	481	491	445	436	383	436	401	403	394	314	305	303	281	273	284	276	285	303	306	285	261	276	8,074	crane	
conveying machine	374	381	322	340	327	319	292	316	301	263	224	230	209	231	208	256	203	187	233	204	199	197	226	6,042	conveying machine	
vehicle	51	46	51	36	41	34	29	42	32	32	32	36	21	28	26	20	21	30	26	30	19	24	23	730	vehicle	
pressure vessel	9	13	10	5	5	6	5	2	7	8	5	7	3	6	5	5	3	2	4	10	1	3	4	128	pressure vessel	
chemical facilities		2	1	4	1	6	3	1		1	2	1			1	1	3	2	1		1	1	1	33	chemical facilities	
welding equipment	119	114	98	98	88	89	78	86	98	92	66	42	56	60	70	64	56	71	63	56	58	64	47	1,733	welding equipment	
kiln, caldron	15	12	15	6	16	13	3	2	6	12	6	9	7	5	4	7	6	4	11	6	6	2	5	178	kiln, caldron	
electric equipment	11	9	7	6	6	12	5	7	9	9	6	5	10	4	6	3	11	4	8	9	5	4	4	160	electric equipment	
human power machine, tools	214	210	208	174	183	166	167	178	180	145	128	128	106	113	106	110	102	116	105	134	114	112	133	3,332	human power machine, tools	
tools	525	566	555	443	473	452	501	470	513	471	391	343	357	314	324	310	337	321	321	299	334	266	283	9,169	tools	
other equipments, facilities	81	98	87	81	81	92	81	96	81	77	70	65	57	64	66	75	71	80	45	70	74	57	64	1,713	other equipments, facilities	
temporary buildings, establishments	558	578	616	539	534	507	518	538	482	497	410	377	426	386	348	379	381	366	373	414	368	373	372	10,340	temporary buildings, establishments	

hazards, harmful substances	49	54	46	34	44	42	36	44	41	41	27	31	25	37	47	34	41	24	20	23	32	29	20	821	hazards, harmful substances
materials	1,887	1,726	1,648	1,467	1,372	1,371	1,247	1,261	1,220	1,165	937	826	819	844	790	836	797	779	791	820	676	646	657	24,582	materials
load	289	346	264	254	273	224	207	226	258	213	160	147	174	141	140	149	173	138	128	130	148	116	136	4,434	load
natural environment	36	26	33	25	20	23	22	26	26	24	17	39	61	35	37	33	20	38	39	64	25	54	24	747	natural environment
other causal agent	67	62	50	30	34	18	22	21	29	28	19	14	20	19	18	15	14	17	18	29	23	20	220	807	other causal agent
no causal agent	115	102	93	117	113	89	117	119	95	99	102	85	99	81	98	97	92	95	91	92	91	84	105	2,271	no causal agent
unclassifiable	6	15	5	3	8	6	5	8	12	7	7	1	1	2	3	5	3	4	4	4		1	3	113	unclassifiable
total	6,967	7,001	6,626	5,847	5,895	5,633	5,360	5,483	5,428	5,018	4,004	3,825	3,878	3,763	3,676	3,766	3,661	3,549	3,538	3,694	3,457	3,157	3,464	106,690	total

Causal agents (small) of fatal and non-fatal accidents in other metal 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			4		1		1		1	3		1		1			1				1	1	2	17	engine
power transmission mechanism			19		25		24	29	30	26	20	23	14	16	16	18	20	11	13	11	9	10	9	343	power transmission mechanism
circular sawing machine			20		18		21	19	27	18	13	16	14	10	15	14	12	13	13	9	14	6	13	285	circular sawing machine
band sawing machine			1		5		4	1	1	1	3	2	2	1	2	1	1	2	1	2	1	1		32	band sawing machine
wood planer machine					2		1	1	1	1	1	1	1							1		1		11	wood planer machine





machine																										machine
other mobile silviculture machine																										other mobile silviculture machine
crane			443		392		400	353	369	368	283	275	279	257	243	254	264	261	276	276	263	238	250	5,744	crane	
mobile crane			29		24		16	30	20	18	15	16	15	15	16	16	8	17	14	15	14	8	17	323	mobile crane	
derrick crane												1												1	derrick crane	
elevator, lift			4		10		6	6	8	5	4	3	4	3	3	3		4	4	5	3	1	4	80	elevator, lift	
cargo lifting appliance			1																	1				2	cargo lifting appliance	
gondola					1				1			1												3	gondola	
lumberyard equipment, logging cableway							1												1					2	lumberyard equipment, logging cableway	
simple skyline yarding equipment																									simple skyline yarding equipment	
other powered crane			14		9		13	12	5	3	12	9	5	6	11	11	4	3	8	9	5	14	5	158	other powered crane	
truck			181		169		147	164	162	131	118	122	106	117	97	137	95	101	118	98	108	104	105	2,380	truck	
forklift			83		86		90	70	93	81	55	64	57	67	72	70	70	44	65	67	55	62	58	1,309	forklift	
railway equipment							1	1	1	5	2	1		4	1	2		1			3	1	2	25	railway equipment	
conveyor			43		52		39	62	37	28	36	30	34	31	33	33	26	32	41	32	25	27	48	689	conveyor	
loader			1		1			1	1	1											2		1	8	loader	
straddle carrier																									straddle carrier	
rough terrain hauler												1												1	rough terrain hauler	
other powered			14		19		15	18	7	17	12	13	12	12	5	14	12	9	9	7	6	3	12	216	other powered	



conveying machines																									conveying machines
cars, bus, motorcycle			48		38		29	37	28	32	29	32	21	27	24	20	20	29	25	29	19	24	19	530	cars, bus, motorcycle
railway vehicle																							1	1	railway vehicle
other vehicles			3		3			5	4		3	4		1	2		1	1	1	1			3	32	other vehicles
boiler			1						2	1	1				1									6	boiler
pressure vessel			2				2	1	1			2	1	1	1	2	2		1	3	1		2	22	pressure vessel
other pressure vessels			7		5		3	1	4	7	4	5	2	5	3	3	1	2	3	7		3	2	67	other pressure vessels
chemical facilities			1		1		3	1		1	2	1			1	1	3	2	1		1	1	1	21	chemical facilities
gas welding equipment			25		15		16	14	20	14	15	8	16	8	13	13	8	16	12	13	13	12	4	255	gas welding equipment
arc welding equipment			27		29		27	31	40	45	36	17	24	28	32	23	22	33	29	20	22	28	24	537	arc welding equipment
other welding equipment			46		44		35	41	38	33	15	17	16	24	25	28	26	22	22	23	23	24	19	521	other welding equipment
kiln, caldron			10		12		3	2	3	9	4	7	5	3	4	6	4	4	9	5	4	2	5	101	kiln, caldron
industrial dryer			2		2				3	3	1	2	1	1		1			2		2			20	industrial dryer
other kiln, caldron			3		2						1		1	1			2			1				11	other kiln, caldron
transmission			4		1		2	3	5	4	2	1	3	3	1	1	9	4	2	6	4	2	2	59	transmission
electric power facilities			1		2		1	1	2	1	3	1	3	1	2		1		1	2	1	1		24	electric power facilities
other electrical equipment			2		3		2	3	2	4	1	3	4		3	2	1		5	1		1	2	39	other electrical equipment
human power			11		7		6	7	11	4	2	5	4	5	5	2	4	1	2	3	9	8	18	114	human power

cranes																									cranes
human power hauling equipment			67		57		58	74	65	52	43	49	46	45	41	45	37	45	52	53	47	49	49	974	human power hauling equipment
human power machine			17		9		7	10	6	8	5	8	3	5	2	6	8	5	5	5	3	1	3	116	human power machine
hand tool			113		110		96	87	98	81	78	66	53	58	58	57	53	65	46	73	55	54	63	1,364	hand tool
ladder			223		189		186	164	189	156	178	125	137	131	123	115	111	103	115	117	129	104	120	2,715	ladder
slinging tool			194		173		183	161	187	165	124	127	125	112	119	106	124	121	108	98	116	68	75	2,486	slinging tool
other tools			138		111		132	145	137	150	89	91	95	71	82	89	102	97	98	84	89	94	88	1,982	other tools
other equipment, facilities			87		81		81	96	81	77	70	65	57	64	66	75	71	80	45	70	74	57	64	1,361	other equipment, facilities
scaffolding			26		26		13	25	30	17	14	16	22	19	12	14	13	12	10	12	18	13	13	325	scaffolding
timbering			1					1	1		1						1							5	timbering
stairs, landing stage			92		82		67	80	63	68	50	44	58	52	65	52	46	39	61	57	53	42	53	1,124	stairs, landing stage
opening			5		10		11	6	10	8	9	4	7	12	5	3	4	9	6	6	8	8	6	137	opening
roof, beam, haze, crossbeam, principal rafter			22		19		13	14	10	17	8	13	13	6	8	10	9	13	9	14	6	9	4	217	roof, beam, haze, crossbeam, principal rafter
working platform, boot board			111		109		91	94	102	116	91	85	82	63	72	65	84	76	58	64	64	59	53	1,539	working platform, boot board
passage			197		162		197	189	145	166	142	115	140	138	113	145	143	142	135	169	143	159	168	2,908	passage
building, establishment			88		70		75	70	64	65	52	51	63	48	41	45	36	36	55	47	39	30	37	1,012	building, establishment
other temporary buildings, establishments			74		56		51	60	57	39	44	48	41	48	32	45	46	38	39	45	37	53	38	891	other temporary buildings, establishments

explosive substance			4			8	4	1	1	1	2			2	4		1			2	1	31	explosive substance		
inflammable substance			10		11		9	11	11	11	10	5	8	16	13	10	8	8	5	3	5	10	6	170	inflammable substance
inflammable gas			4		8		1	6	7	6	1	2		4	5	5	3		3	4	4	2	1	66	inflammable gas
harmful substance			12		13		8	16	11	12	14	14	10	8	14	7	18	5	4	11	8	8	8	201	harmful substance
radiation					1																		1	radiation	
other hazards, harmful substances			16		11		10	7	11	11	1	8	7	9	13	8	12	10	8	5	15	7	4	173	other hazards, harmful substances
metal material			1,568		1,292		1,183	1,193	1,152	1,116	880	774	775	805	745	783	745	741	746	774	632	612	612	17,128	metal material
lumber, bamboo			34		44		34	38	47	19	32	22	19	19	24	34	20	20	26	26	24	19	28	529	lumber, bamboo
stone, sand, substance			4		3		3	4	3	3		1	2	1	3	3	5	2		2	2			41	stone, sand, substance
other materials			42		33		27	26	18	27	25	29	23	19	18	16	27	16	19	18	18	15	17	433	other materials
load			209		220		179	189	218	182	129	126	155	123	119	135	152	122	112	116	124	109	122	2,841	load
machine/equipment as load			55		53		28	37	40	31	31	21	19	18	21	14	21	16	16	14	24	7	14	480	machine/equipment as load
natural ground, rock			1		2		1	2	4	2	1	2	3	3		2	1	1	2	2		3	1	33	natural ground, rock
standing tree			1		1		1	2	1	2		1		1					1	1		1		13	standing tree
water							1			3		3	16			3	1	1	1			2		31	water
abnormal environment			1						3			1		1	1		1		1	4	1		1	15	abnormal environment
high/cold temperature environment			11		5		5	9	3	7	8	27	24	19	23	13	10	12	15	31	17	32	8	279	high/cold temperature environment

other environments			19		12		15	12	15	10	8	5	18	11	13	15	7	24	19	26	7	16	14	266	other environments
other causal agent			50		34		22	21	29	28	19	14	20	19	18	15	14	17	18	29	23	20	220	630	other causal agent
no causal agent			93		113		117	119	95	99	102	85	99	81	98	97	92	95	91	92	91	84	105	1,848	no causal agent
unclassifiable			5		8		5	8	12	7	7	1	1	2	3	5	3	4	4	4		1	3	83	unclassifiable
total			6,626		5,895		5,360	5,483	5,428	5,018	4,004	3,825	3,878	3,763	3,676	3,766	3,661	3,549	3,538	3,694	3,457	3,157	3,464	81,242	total

#### Workers age of fatal and non-fatal accidents in other metal 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	280	257	275	226	231	191	195	162	182	138	103	102	116	118	127	132	121	102	83	96	80	64	73	3,454	19 years old or less
20-29	1,349	1,366	1,269	1,101	1,092	1,021	975	980	965	880	722	714	680	674	653	699	670	625	663	632	624	546	613	19,513	20-29
30-39	1,088	1,106	1,082	1,085	1,088	1,127	1,067	1,154	1,133	1,084	843	863	802	781	763	745	735	672	660	700	618	551	605	20,352	30-39
40-49	1,290	1,266	1,091	915	976	879	827	860	859	810	720	726	779	774	798	814	786	824	760	839	775	732	776	19,876	40-49
50-59	2,098	2,149	1,997	1,706	1,625	1,568	1,457	1,408	1,348	1,160	864	726	722	665	620	639	590	640	673	673	677	619	740	25,364	50-59
60 years old or more	862	857	912	814	883	847	839	919	941	946	752	694	779	751	715	737	759	686	699	754	683	645	657	18,131	60 years old or more
total	6,967	7,001	6,626	5,847	5,895	5,633	5,360	5,483	5,428	5,018	4,004	3,825	3,878	3,763	3,676	3,766	3,661	3,549	3,538	3,694	3,457	3,157	3,464	106,690	total

#### Workers' number of workplace of fatal and non-fatal accidents in other metal 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	2,827	2,883	2,739	2,414	2,421	2,326	2,155	2,086	1,956	1,776	1,454	1,342	1,398	1,208	1,235	1,183	1,124	1,069	1,033	1,108	954	889	813	38,393	9 workers or less
10-29	2,494	2,370	2,277	2,026	2,011	1,976	1,862	1,929	1,892	1,788	1,395	1,360	1,352	1,401	1,316	1,370	1,349	1,273	1,269	1,270	1,191	1,120	1,193	37,484	10-29

30-49	795	844	794	690	723	665	700	726	718	663	540	516	513	538	546	593	599	598	573	577	566	536	601	14,614	30-49
50-99	534	549	492	444	447	411	378	445	509	446	359	364	346	352	332	363	350	350	410	392	438	351	438	9,500	50-99
100-299	249	289	252	226	233	217	219	239	286	285	225	197	231	220	201	220	211	225	223	299	252	225	335	5,559	100-299
300 workers or more	68	66	72	47	60	38	46	58	67	60	31	46	38	44	46	37	28	34	30	48	56	36	84	1,140	300 workers or more
total	6,967	7,001	6,626	5,847	5,895	5,633	5,360	5,483	5,428	5,018	4,004	3,825	3,878	3,763	3,676	3,766	3,661	3,549	3,538	3,694	3,457	3,157	3,464	106,690	total

Month of fatal and non-fatal accidents in other metal 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	551	527	563	426	505	421	414	408	446	406	397	321	347	309	273	300	297	299	273	291	262	244	276	8,556	January
February	591	584	562	446	497	436	472	491	472	456	336	304	323	346	281	301	282	311	290	291	293	282	277	8,924	February
March	615	572	599	495	523	512	482	472	439	454	362	302	378	358	317	306	318	297	321	331	272	250	295	9,270	March
April	515	568	502	499	488	469	420	441	464	386	331	277	292	324	339	343	286	292	264	261	291	284	238	8,574	April
May	553	552	531	518	502	385	409	405	444	412	291	284	277	279	279	308	284	263	256	286	290	243	275	8,326	May
June	578	560	595	483	503	502	509	472	472	440	322	358	319	311	265	327	316	304	307	339	270	241	329	9,122	June
July	651	660	595	546	538	555	496	470	479	470	369	366	310	350	374	339	382	325	327	352	382	269	353	9,958	July
August	614	631	563	475	491	424	475	501	478	406	320	351	333	342	304	302	314	315	305	326	281	274	306	9,131	August
September	631	615	523	494	499	504	446	474	439	415	359	347	340	309	295	312	286	320	310	293	287	288	281	9,067	September
October	572	611	591	581	532	523	454	494	475	446	312	294	322	288	359	358	344	288	341	351	297	288	293	9,414	October
November	534	563	520	468	417	468	418	456	411	396	337	337	324	291	320	301	295	285	275	301	281	239	292	8,529	November
December	562	558	482	416	400	434	365	399	409	331	268	284	313	256	270	269	257	250	269	272	251	255	249	7,819	December
total	6,967	7,001	6,626	5,847	5,895	5,633	5,360	5,483	5,428	5,018	4,004	3,825	3,878	3,763	3,676	3,766	3,661	3,549	3,538	3,694	3,457	3,157	3,464	106,690	total

Prefecture of fatal and non-fatal accidents in other metal products in 1999-2021









cut				1		1						1									1		4	cut	
injury to the sole of the foot						1											1						2	injury to the sole of the foot	
drown												12					1						13	drown	
contact to high/low-temperature	5	2	3	1	1			1	2	1	1	2		2	2	1		1		1			27	contact to high/low-temperature	
contact to harmful substance	1			2					2		1	1			1		2			3			14	contact to harmful substance	
electric shock	3	1	1	2	1					1	1	1		1				1		1			14	electric shock	
explosion	1	2		1	3		2		1							1							11	explosion	
burst			1					1															2	burst	
fire		1			3					1	1				2					1			9	fire	
traffic accident (public road)	6	5	5	3	3	3		1	3		1	2	2	1	2	1			1	1		1	4	45	traffic accident (public road)
traffic accident (others)																									traffic accident (others)
reaction to motion/improper motion																									reaction to motion/improper motion
others	1					1	1	1					3	1		1	1						1	11	others
unclassifiable							1																	1	unclassifiable
total	45	49	41	43	42	45	40	31	41	34	27	28	40	24	29	20	28	29	18	20	17	14	21	726	total

Causal agents (large) of fatal accidents in other metal products in 1999-2021

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	4	9	8	6	5	8	3	9	6	4	3	7	3	5	6	4	8	4	2	2	1	5	5	117	machine
crane, conveying machine	14	14	12	15	16	15	15	6	8	8	12	9	11	5	8	7	4	10	6	5	8	4	8	220	crane, conveying machine
other equipment	12	7	8	9	10	10	9	6	10	11	4	2	5	4	3	4	5	8	2	1	1	1	3	135	other equipment
temporary buildings, establishments	4	6	4	1		6	1	5	3	2	2	2	1	2	1	1	2	3	2	4	1		1	54	temporary buildings, establishments
substance, material	5	12	7	8	7	3	8	3	13	6	4	6	3	5	9	2	8	3	5	3	4	3	1	128	substance, material
load	1	1		1	2	2	1		1	2		1	2	1				1	1	1	1		1	20	load
environment	3		2	2	2		1	1		1		1	14	1	2	1				4		1	1	37	environment
others	2			1		1	2	1			2		1	1		1	1				1		1	15	others
total	45	49	41	43	42	45	40	31	41	34	27	28	40	24	29	20	28	29	18	20	17	14	21	726	total

Causal agents (middle) of fatal accidents in other metal 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																										engine
power transmission mechanism										1	1					1	1								4	power transmission mechanism
woodworking machine																										woodworking machine
construction machine			1					1		1	1						1	1	1						7	construction machine

metal manufacturing machine	3	7	6	6	4	8	2	6	4	2	1	5	1	4	6	3	3	3		2	1	3	5	85	metal manufacturing machine	
general machine	1	2	1		1		1	2	2			2	2	1			3		1			2		21	general machine	
mobile silviculture machine																										mobile silviculture machine
crane	5	7	6	8	8	7	12	3	5	7	8	5	4	2	4	2	3	8	4	4	5	2	2	121	crane	
conveying machine	7	6	2	5	6	6	3	3	2	1	3	4	6	3	4	5	1	1	1		3	2	4	78	conveying machine	
vehicle	2	1	4	2	2	2			1		1		1					1	1	1			2	21	vehicle	
pressure vessel			1																					1	pressure vessel	
chemical facilities																										chemical facilities
welding equipment	2		1	1	2					1			1	1			2	2						13	welding equipment	
kiln, caldron	2		1		2	2										1								8	kiln, caldron	
electric equipment	1																							1	electric equipment	
human power machine, tools	1					1	2							1									1	6	human power machine, tools	
tools	5	4	5	8	6	6	6	6	7	9	4	1	4	2	3	2	3	4	2		1	1	2	91	tools	
other equipments, facilities	1	3				1	1		3	1		1				1		2		1				15	other equipments, facilities	
temporary buildings, establishments	4	6	4	1		6	1	5	3	2	2	2	1	2	1	1	2	3	2	4	1		1	54	temporary buildings, establishments	
hazards, harmful substances	1	4		2	3		2		4		1			1	3		2							23	hazards, harmful substances	
materials	4	8	7	6	4	3	6	3	9	6	3	6	3	4	6	2	6	3	5	3	4	3	1	105	materials	

load	1	1		1	2	2	1		1	2		1	2	1				1	1	1	1		1	20	load
natural environment	3		2	2	2		1	1		1		1	14	1	2	1				4		1	1	37	natural environment
other causal agent	1			1		1			1														1	5	other causal agent
no causal agent							1	1					1	1		1	1					1		7	no causal agent
unclassifiable	1						1				1													3	unclassifiable
total	45	49	41	43	42	45	40	31	41	34	27	28	40	24	29	20	28	29	18	20	17	14	21	726	total

Causal agents (small) of fatal accidents in other metal 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					1	1								4	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,																											chamfering machine, router,







boiler																									boiler	
pressure vessel			1																						1	pressure vessel
other pressure vessels																										other pressure vessels
chemical facilities																										chemical facilities
gas welding equipment																1									1	gas welding equipment
arc welding equipment	2		1	1	1					1						1	1								8	arc welding equipment
other welding equipment					1							1	1			1									4	other welding equipment
kiln, caldron	1		1			2										1									5	kiln, caldron
industrial dryer	1				2																				3	industrial dryer
other kiln, caldron																										other kiln, caldron
transmission																										transmission
electric power facilities																										electric power facilities
other electrical equipment	1																								1	other electrical equipment
human power cranes	1																								1	human power cranes
human power hauling equipment						1										1									2	human power hauling equipment
human power machine																								1	1	human power machine
hand tool																									2	hand tool



ladder	2		1	2	1			1	2	2			1	1					2				1	16	ladder	
slinging tool	3	4	4	5	5	3	6	5	5	6	3		3	1	3	2	3	4			1	1	1	68	slinging tool	
other tools				1		3				1	1	1												7	other tools	
other equipment, facilities	1	3				1	1		3	1		1				1		2		1				15	other equipment, facilities	
scaffolding		1				1																		2	scaffolding	
timbering																										timbering
stairs, landing stage		1				1		3					1						2					8	stairs, landing stage	
opening																	1							1	opening	
roof, beam, haze, crossbeam, principal rafter	2	1	1			4	1				1	1			1		1	2	1	1	1			18	roof, beam, haze, crossbeam, principal rafter	
working platform, boot board		1	1						1		1				1	1			1				1	8	working platform, boot board	
passage									1			1	1											3	passage	
building, establishment	2	1	1	1				2	1	2														10	building, establishment	
other temporary buildings, establishments		1	1											1					1					4	other temporary buildings, establishments	
explosive substance		2					2																	4	explosive substance	
inflammable substance		2			1									1	2									6	inflammable substance	
inflammable gas				1	1				1															3	inflammable gas	
harmful substance	1			1					2		1				1		2							8	harmful substance	

radiation																										radiation
other hazards, harmful substances					1					1															2	other hazards, harmful substances
metal material	4	8	7	6	4	3	6	3	9	6	3	6	3	4	6	2	6	3	5	3	4	3	1	105	metal material	
lumber, bamboo																										lumber, bamboo
stone, sand, substance																										stone, sand, substance
other materials																										other materials
load	1	1		1	2	2			1	2		1	2	1				1	1	1			1	18	load	
machine/equipment as load								1													1			2	machine/equipment as load	
natural ground, rock	1																							1	natural ground, rock	
standing tree																										standing tree
water								1					14											15	water	
abnormal environment																				3			1	4	abnormal environment	
high/cold temperature environment	1		2	1	1					1	1		1	2	1				1		1			13	high/cold temperature environment	
other environments	1			1	1		1																	4	other environments	
other causal agent	1			1	1		1				1												1	5	other causal agent	
no causal agent							1	1					1	1		1	1				1			7	no causal agent	
unclassifiable	1						1				1													3	unclassifiable	
total	45	49	41	43	42	45	40	31	41	34	27	28	40	24	29	20	28	29	18	20	17	14	21	726	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	4	6	1	4	1	2	4	2	6	2	5	3		1		1	3		1	1	2			49	January
February	1	2	5	3	2	3	6	5	7	1	3	2	1	2	1	3	3	4	4			3	2	63	February
March	4	4	3	4	5	5	4	3	6	5	1	3	18	2	6	2	1	5			4			85	March
April	4	8	6	4	6	6	5			3		1	3				1	1	3		1		1	53	April
May	2	2	1	3	2	3	3	3	5	1	2	2		1	3	5	2	2	2	2	1	2	4	53	May
June	3	2	4	6	4	1	5	1		4	3	2	3	1	3		2	5	1		2	1	3	56	June
July	3	5	7	5	3	4	2	2	4	5	2	1	2	4	7		2	4	1	2		2	2	69	July
August	5	4	2		9	5	2	2	2	3		3	4	4		1	2	2	1	4		1	1	57	August
September	6	3	3	4	4	7	2	6	4	2	5	3	2	4	1	2	3	3	1	4	3	1	1	74	September
October	3	6	4	3	2	5	2	2	5	2	2	1	2		2	3	6		3	4		3	1	61	October
November	5	5	3	5	1	2	2	4		3	1	2	3	3	3		3	1	1		3	1	2	53	November
December	5	2	2	2	3	2	3	1	2	3	3	5	2	2	3	3		2		3	1		4	53	December
total	45	49	41	43	42	45	40	31	41	34	27	28	40	24	29	20	28	29	18	20	17	14	21	726	total

Prefecture of fatal accidents in other metal 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	2	1		2	1	3	1	1					1	1		1	2	1	1		1			19	Hokkaido	
Aomori									1	1									1	2			1	6	Aomori	
Iwate						1	2	1					2					1							7	Iwate
Miyagi		1				1	1		1				10				1								15	Miyagi
Akita				1											1										2	Akita
Yamagata			1							1			1											1	4	Yamagata
Fukushima	1		1		1				3				2									2			10	Fukushima

Ibaraki	1	2	2	4	2		3		2	3	3	3		2	1	1		1		1	1	33	Ibaraki		
Tochigi	2	1	3	1	1		1	2				1			2						1	15	Tochigi		
Gunma	2	2	1	1	1	1	1	1					1				1			1		13	Gunma		
Saitama	6	4	1	2	3	2	1	2					1	2		1	1			3		1	2	32	Saitama
Chiba	2	5	2	4	3	2	3	2	3	5	3	2	3	1		1	2	3		1		1	1	49	Chiba
Tokyo	1	1	2	2	1	1	1	1						1	1	2	1	1						16	Tokyo
Kanagawa	2	2	1	1	2			1	1	3	2		1		1		1					1	19	Kanagawa	
Niigata		1	1	2		1		2	1		1				4			1		1		2	17	Niigata	
Toyama	1	1		1	4	1	1		2	2			1	2	1			1	1	1			20	Toyama	
Ishikawa				1		1	1					1				2							6	Ishikawa	
Fukui	1		1							2	1	1			1	1				1			9	Fukui	
Yamanashi				1		1			1	1								1				1	6	Yamanashi	
Nagano	3		1			1						1	2							1	1		10	Nagano	
Gifu	2		1	1		1	1		1			1	2		1		3			1	1	3	19	Gifu	
Shizuoka		4	4		2	3		1	1			1	1		3		1	1	1	1	1	1	26	Shizuoka	
Aichi	6	3	3	1	2	5	4	1	2	3	2	2		1			3	1	1	7	2	1	1	51	Aichi
Mie	1	1				2	1			1	1				2								9	Mie	
Shiga	1	3				1				1	1				1			1			1	1		11	Shiga
Kyoto	2	2						3			1		1		1	1							11	Kyoto	
Osaka	3	5	7	6	7	7	7	6	8	3	3	4	5	5	3	3	3	3	2	3			1	94	Osaka
Hyogo	2	4	4	1	4	2	1	2	5	2		5	1	1	1	3	4	2	2			2	1	49	Hyogo
Nara			1						1					1	2				1		1	1		8	Nara
Wakayama								1	1						1			2	1					6	Wakayama
Tottori																		1	1					2	Tottori

Shimane																								Shimane	
Okayama			1		1	1		1	2		2	1	2	2			2	1	1				1	18	Okayama
Hiroshima		2	1	1		2			1	1	2	1		1				2		3				18	Hiroshima
Yamaguchi			1	1	1	1	1		1						1								1	8	Yamaguchi
Tokushima															1			1						2	Tokushima
Kagawa	2			1	1	1	1			1			1	1	2									11	Kagawa
Ehime				1	1	1	1	1	2	1	1	1						2	1				1	14	Ehime
Kochi				1		1	1				1													4	Kochi
Fukuoka	2	1	1	3	2	1	2			1	1	1	2	1	1		1	2			2			24	Fukuoka
Saga									1								1							2	Saga
Nagasaki				2			2			2	1	1	1											9	Nagasaki
Kumamoto		1		1	1			1				1					1	1						7	Kumamoto
Oita		1					2				1			1			1					1		7	Oita
Miyazaki					1													1	1					3	Miyazaki
Kagoshima								1														1		2	Kagoshima
Okinawa		1																			1		1	3	Okinawa
total	45	49	41	43	42	45	40	31	41	34	27	28	40	24	29	20	28	29	18	20	17	14	21	726	total

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

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