Fatal and non-fatal accidents in metal mining in Japan in 1999-2022

metal mining industry Code No.020301

Type of accidents in metal mining in 1999-2022

Type of accidents	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	total
fall from height		2		1	1	1	1			1	1									1					9
falling to same	1		2		1				2			1				1						1			9
crash	1		1			1																			3
struck by flying or falling object	3	1		1		1		1				1						1			1				10
collapse		1	1		2		1					1													6
crashed by	1					1						1				1									4
caught in/between	3				1	1	1			2				1							1				10
cut														1											1
injury to the sole of the foot																									
drown						1																			1
contact to high/low-		1	1	1	1																				4

temperature																							
contact to harmful																		1					1
substance																		I					
electric shock																							
explosion												1											1
burst																							
fire																							
traffic accident				1			1							1		1							4
(public road)				ľ										I		I							4
traffic accident																							
(others)																							
reaction to																							
motion/improper		2	2	1	1	1				1			1										9
motion																							
others				1																			1
unclassifiable																							
total	9	7	7	6	7	7	4	1	2	4	1	5	3	1	2	1	1	1	1	2	1		73

Causal agents (large) of fatal and non-fatal accidents in metal mining in 1999-2022

Causal (L) agents	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	total
machine	1			1	1	1	1					1		2	1	1									10

crane, conveying	3	1		1	2	1	1	1		3		1				1				1			16
other equipment	1	3	1		1		1												1				8
temporary buildings, establishments			2			1			1			1			1						1		7
substance, material	3		2	2	1	1	1		1								1	1		1			14
load						1				1													2
environment	1	3	2	1	2	2					1	2											14
others				1									1										2
total	9	7	7	6	7	7	4	1	2	4	1	5	3	1	2	1	1	1	1	2	1		73

Causal agents (middle) of fatal and non-fatal accidents in metal mining in 1999-2022

Causal (M) agents	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	total
engine																									
power																									
transmission															1										1
mechanism																									
woodworking																									
machine																									

construction	1			1		1	1											4
machine																		
netal																		
manufacturing																		
machine																		
general machine					1					1	2	1						5
nobile silviculture																		
machine																		
crane										1								1
conveying																		
machine	2	1			2	1		1	3							1		
vehicle	1			1			1						1					Z
oressure vessel																		
hemical facilities																		
welding																		
equipment																		
iln, caldron																		
electric equipment																		
numan power		1	1				1											
machine, tools			1															 3
ools		1													1			3

other equipments,	1	1																					2
facilities	•	•																					
temporary																							
buildings,			2			1			1			1			1						1		7
establishments																							
hazards, harmful					1													1					2
substances																		ı					
materials	3		2	2		1	1		1								1			1			12
load						1				1													2
natural	1	3	2	1	2	2					1	2											14
environment	ı			I							1												14
other causal agent				1																			1
no causal agent													1										1
unclassifiable																							
total	9	7	7	6	7	7	4	1	2	4	1	5	3	1	2	1	1	1	1	2	1		73

Causal agents (small) of fatal and non-fatal accidents in metal mining in 1999-2022

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	2022	total
engine																									
power transmission															1										1
mechanism															1										

circular sawing												
machine												
band sawing												
machine												
wood planer												
machine												
hollow chisel												
mortiser, wood												
borer												
chamfering												
machine, router,												
woodworking												
milling machine												
chain saw												
other woodworking												
machines												
leveling,												
transporting or			1									1
loading machine												
excavating machine												
foundation work												
machine												

demolition machine vehicle for high lift				
vehicle for high lift				
work				
other construction other construction				
machines				
lathe				
drill press, milling				
machine				
grinding machine,				
buffing machine				
power press				
forging pressure				
hammer				
shearing machine				
other metal				
manufacturing				
machines				
centrifugal machine				
mixer, grinder				1
roll machine (except				
printingroll				

machine)														
injection molding														
machine														
food manufacturing														
machine														
printing machine														
industrial robot														
other general			1				1	1	1					4
power machines			•				ı		•					4
felling machine														
mobile logging														
machine														
skyline yarding														
machine														
other mobile														
silviculture machine														
crane							1							1
mobile crane														
derrick crane														
elevator, lift														
cargo lifting														
appliance														

gondola													
lumberyard													
equipment, logging													
cableway													
simple skyline													
yarding equipment													
other powered													
crane													
truck		1		1									2
forklift					1								1
railway equipment													
conveyor		1			2						1		4
loader													
straddle carrier													
rough terrain hauler													
other powered													
conveying machines													
cars, bus,			1										
motorcycle			I										2
railway vehicle													
other vehicles													

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

nauling equipment				1										1
numan power machine														
nand tool		1												1
adder			1								1			2
slinging tool														
other tools														
other equipment,														
scaffolding														
timbering														
stairs, landing stage									1					1
opening														
croof, beam, haze, crossbeam, principal rafter														
working platform,		1			1									2
passage		1					1					1		3
ouilding, establishment														

other temporary															
buildings,															
establishments															
explosive substance															
inflammable															
substance															
inflammable gas															
harmful substance												1			1
radiation															
other hazards,															
harmful substances															
metal material					1								1		2
lumber, bamboo															
stone, sand,		1									1				2
substance															3
other materials		1													1
load						1									1
machine/equipment															
as load															
natural ground,		1	2				1	1							5
rock		1	2				I 	1)
standing tree								1							1

water																							
abnormal																							
environment																							
high/cold																							
temperature			1																				1
environment																							
other environments																							
other causal agent																							
no causal agent													1										1
unclassifiable																							
total	9	7	7	6	7	7	4	1	2	4	1	5	3	1	2	1	1	1	1	2	1		73

Workers age of fatal and non-fatal accidents in metal mining in 1999-2022

Age	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	total
19 years old or less																									
20-29			1				1			1															3
30-39	4	1	2	1	1	1						1									1				12
40-49	1	1	1	2	1	4	3			2				2		2	1		1						21
50-59	4	4	2	3	3	2		1	1		1	3		1	1			1			1				28
60 years old or		1	1		2				1	1		1								1		1			9

more																								
total	9	7	_	6	7	7	4	1	2	4	1	5	3	1	2	1	1	1	1	2	1		73	

Workers' number of workplace of fatal and non-fatal accidents in metal mining in 1999-2022

Workers scale	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	total
9 workers or less	1	3		1						1		2									1				9
10-29	4	1	1	1	5	3	4			1	1			2	1	1	1	1			1				28
30-49	1							1		1		1								1					5
50-99			1			1																			2
100-299	1	3	4	4	2	3						1													18
300 workers or	2		1						2	1		1		1		1			1			1			11
more																									
total	9	7	7	6	7	7	4	1	2	4	1	5		3	1	2	1	1	1	1	2	1			73

Month of fatal and non-fatal accidents in metal mining in 1999-2022

Month	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	total
January		2	1			1	1			1		1													7
February			1												1										2
March			1	1			1					2									1				6
April			1	1	2	1				1				1				1							8

		<u> </u>																					
May	1	1					1	1	1	1	1		1		1								9
June		1	1													1							3
July	1				2																		3
August	3											1							1		1		6
September	1	1			2	2				1													7
October		1	1	1		1							1										5
November	1	1		3	1	2			1									1					10
December	2		1				1					1			1					1			7
total	9	7	7	6	7	7	4	1	2	4	1	5	3	1	2	1	1	1	1	2	1		73

Prefecture of fatal and non-fatal accidents in metal mining in 1999-2022

Prefecture	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	total
Hokkaido	2	4	5		6		4					2		1											24
Aomori																									
lwate	1	1									1														3
Miyagi														1						1					2
Akita																									
Yamagata																									
Fukushima	1																								1
Ibaraki												1													1

			П		11			11	П		 				 	 	لــــــا		
Tochigi																1			1
Gunma																			
Saitama		1	1																2
Chiba														1					1
Tokyo																			
Kanagawa																			
Niigata																			
Toyama																			
Ishikawa																			
Fukui																			
Yamanashi																			
Nagano													1						1
Gifu	2	1	1			1	2	2		1	1		1		1		1		14
Shizuoka								1											1
Aichi																			
Mie																			
Shiga	1																		1
Kyoto	1							1											2
Osaka																			
Hyogo												1							1

Nara																							
Wakayama																							
Tottori																							
Shimane																							
Okayama																							
Hiroshima																							
Yamaguchi																							
Tokushima																							
Kagawa																							
Ehime																							
Kochi	1																						1
Fukuoka																							
Saga																							
Nagasaki																							
Kumamoto																				1			1
Oita																							
Miyazaki																							
Kagoshima					1							1					1						3
Okinawa																							
total	9	7	7	6	7	7	4	1	2	4	1	5	3	1	2	1	1	1	1	2	1		73

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

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

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

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

Return to https://www.jisha.or.jp/english/statistics/2022e_industry.html

Fatal accidents in metal mining in Japan in 1999-2022

metal mining industry Code No.020301

Type of fatal accidents in metal mining in 1999-2022

Type of accidents	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	total
fall from height		1																							1
falling to same																									
level																									
crash																									
struck by flying or																									
falling object																									
collapse		1																							1
crashed by																									

caught in/between													
cut													
injury to the sole of the foot													
drown			1										1
contact to high/low- temperature	1												1
contact to harmful substance													
electric shock													
explosion													
burst													
fire													
traffic accident (public road)													
traffic accident (others)													
reaction to motion/improper motion													
others													

unclassifiable													
total	3		1										4

Causal agents (large) of fatal accidents in metal mining in 1999-2022

Causal (L) agents	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	total
machine																									
crane, conveying																									
machine																									
other equipment		1																							1
temporary																									
buildings,																									
establishments																									
substance,																									
material																									
load																									
environment		2				1																			3
others																									
total		3				1																			4

Causal agents (middle) of fatal accidents in metal mining in 1999-2022

Causal (M) agents	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	tota
engine																									
power																									
transmission																									
mechanism																									
woodworking																									
machine																									
construction																									
machine																									
metal																									
manufacturing																									
machine																									
general machine																									
mobile silviculture																									
machine																									
crane																									
conveying																									
machine																									
vehicle																									
pressure vessel																									
chemical facilities																									
welding																									

equipment													
kiln, caldron													
electric equipment													
human power													
machine, tools													
tools	1												1
other equipments,													
temporary buildings, establishments													
hazards, harmful substances													
materials													
load													
natural environment	2		1										3
other causal agent													
no causal agent													
unclassifiable													
total	3		1										4

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	2022	total
engine																									
power transmission																									
mechanism																									
circular sawing																									
machine																									
band sawing																									
machine																									
wood planer																									
machine																									
hollow chisel																									
mortiser, wood																									
borer																									
chamfering																									
machine, router,																									
woodworking																									
milling machine																									
chain saw																									
other woodworking																									

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

other metal												
manufacturing												
machines												
centrifugal machine												
mixer, grinder												
roll machine (except												
printingroll												
machine)												
injection molding												
machine												
food manufacturing												
machine												
printing machine												
industrial robot												
other general												
power machines												
felling machine												
mobile logging												
machine												
skyline yarding												
machine												
other mobile												

silviculture machine										
crane										
mobile crane										
derrick crane										
elevator, lift										
cargo lifting										
appliance										
gondola										
lumberyard										
equipment, logging										
cableway										
simple skyline										
yarding equipment										
other powered										
crane										
truck										
forklift										
railway equipment										
conveyor										
loader										
straddle carrier										

rough terrain hauler													
other powered													
conveying machines													
cars, bus,													
motorcycle													
railway vehicle													
other vehicles													
boiler													
pressure vessel													
other pressure													
vessels													
chemical facilities													
gas welding													
equipment													
arc welding													
equipment													
other welding													
equipment													
kiln, caldron													
industrial dryer													
other kiln, caldron													
transmission													

<u> </u>	 =	\sqsubseteq	 \square	\square	 	 	 	 	 	 !	 	 	
electric power facilities													
other electrical													
equipment													
human power													
cranes													
human power													
hauling equipment													
human power													
machine													
hand tool													
ladder	1												1
slinging tool													
other tools													
other equipment,													
facilities													
scaffolding													
timbering													
stairs, landing stage													
opening													
roof, beam, haze,													

crossbeam,												
principal rafter												
working platform,												
boot board												
passage												
building,												
establishment												
other temporary												
buildings,												
establishments												
explosive substance												
inflammable												
substance												
inflammable gas												
harmful substance												
radiation												
other hazards,												
harmful substances												
metal material												
lumber, bamboo												
stone, sand,												
substance												

other materials													
load													
machine/equipment													
as load													
natural ground,	1												
rock													
standing tree													
water													
abnormal													
environment													
high/cold													
temperature	1												1
environment													
other environments			1										1
other causal agent													
no causal agent													
unclassifiable													
total	3		1										4

Workers age of fatal accidents in metal mining in 1999-2022

_																	 							
Age	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008					2013		2016				2020		2022 1	total∥
-9 -																	 							

19 years old or less													
20-29													
30-39	1												1
40-49													
50-59	2		1										3
60 years old or													
more													
total	3		1										4

Workers' number of workplace of fatal accidents in metal mining in 1999-2022

Workers scale	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	total
9 workers or less																									
10-29		1																							1
30-49																									
50-99																									
100-299		2				1																			3
300 workers or																									
more																									
total		3				1																			4

Month	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	total
January																									
February																									
March																									
April																									
May																									
June		1																							1
July																									
August																									
September		1																							1
October		1				1																			2
November																									
December																									
total		3				1																			4

Prefecture of fatal accidents in metal mining in 1999-2022

Prefecture	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	total
Hokkaido		3				1																			4

Aomori													
lwate													
Miyagi													
Akita													
Yamagata													
Fukushima													
Ibaraki													
Tochigi													
Gunma													
Saitama													
Chiba													
Tokyo													
Kanagawa													
Niigata													
Toyama													
Ishikawa													
Fukui													
Yamanashi													
Nagano													
Gifu													
Shizuoka													

Aichi												
Mie												
Shiga												
Kyoto												
Osaka												
Hyogo												
Nara												
Wakayama												
Tottori												
Shimane												
Okayama												
Hiroshima												
Yamaguchi												
Tokushima												
Kagawa												
Ehime												
Kochi												
Fukuoka												
Saga												
Nagasaki												

Kumamoto													
Oita													
Miyazaki													
Kagoshima													
Okinawa													
total	3		1										4

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

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