

Table VIII-2. Exposure Profile for Job Categories of Affected Workers in Each Industry Sector

Industry Sector	Job Category	Number of Exposed Workers											
		Total	Below LOD	LOD to 0.25	0.25 to 0.5	0.5 to 1.0	1.0 to 5.0	5.0 to 10.0	10.0 to 20.0	> 20.0			
1	Electroplating	Hard Chrome	2,590	0	200	424	139	1,261	496	69	0		
		Decorative Chrome	1,850	0	529	881	0	88	44	132	176		
		Job Shop Chrome Plater	3,330	0	833	740	185	370	570	355	278		
		Captive Shop Chrome Plater	2,683	0	278	1,018	370	370	370	93	185		
		Job Shop Plater	13,600	0	3,365	6,083	416	1,409	924	671	732		
		Captive Shop Plater	7,494	0	1,165	3,975	457	1,005	594	183	114		
		Anodizer	1,943	0	795	795	88	0	177	0	88		
		Operator	5,181	0	954	1,751	373	842	636	342	282		
		Helper/Other	6,939	0	990	3,975	0	688	765	347	173		
		Conversion Coater	21,247	0	12,301	7,828	0	1,118	0	0	0		
		Subtotal Electroplating	66,857	0	21,409	27,471	2,028	7,152	4,577	2,191	2,029		
		2A	Welding (General Industry)	SMAW	20,391	4,690	0	0	0	3,670	2,447	6,525	3,059
				GMAW	14,954	6,878	449	0	3,589	2,392	150	1,047	449
				TIG	4,531	3,579	0	0	952	0	0	0	0
				SAW	1,812	1,812	0	0	0	0	0	0	0
Plasma Cutting	467			204	0	0	0	45	23	0	195		
Resistance Welding	453			390	0	0	0	0	63	0	0		
Subtotal Welding -- General Industry (stainless steel)	45,326	20,271	449	0	4,541	6,107	2,683	7,572	3,703				
2B	Welding (Maritime Industry)	SMAW	1,893	555	212	138	250	305	129	157	148		
		GMAW	2,734	1,113	432	243	405	487	55	0	0		
		TIG	631	423	158	25	19	6	0	0	0		
		FCAW	12,619	5,605	1,251	1,869	1,717	1,088	153	153	784		
		Plasma Cutting	421	58	58	0	29	160	72	0	43		
		Plasma Welding	168	0	113	55	0	0	0	0	0		
		Oxy-fuel Cutting	420	106	161	76	26	26	13	13	0		
		Air Carbon Arc Cutting/Gouging	167	51	15	37	7	0	22	29	7		
		Electron Torch Cutting	42	42	0	0	0	0	0	0	0		
		Thermal Spray Tungsten Carbide	42	0	42	0	0	0	0	0	0		
		SAW	1,682	1,682	0	0	0	0	0	0	0		
		Grinding	210	84	126	0	0	0	0	0	0		
Subtotal Welding -- Maritime (stainless steel)	21,029	9,718	2,567	2,444	2,452	2,071	443	351	981				
2C	Welding (Construction Industry)	SMAW	45,338	13,284	5,078	3,310	5,985	7,299	3,083	3,763	3,536		
		Plasma Cutting	604	83	83	0	42	229	104	0	62		
		GMAW	9,067	3,690	1,433	807	1,342	1,614	181	0	0		
		Brazing	4,534	0	0	0	0	0	0	4,534	0		
		Metallizing	906	0	0	0	0	0	154	0	752		
		Subtotal Welding -- Construction (stainless steel)	60,449	17,058	6,594	4,117	7,368	9,143	3,522	8,297	4,351		

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2D	Welding (Government)	707	207	79	52	93	114	48	59	55	
	Plasma Cutting (stainless steel/ high-chromium alloy)	9	1	1	0	3	2	0	0	1	
	GMAW	141	57	22	13	25	3	0	0	0	
	Brazing	72	0	0	0	0	0	0	72	0	
	Metallizing	14	0	0	0	0	2	0	0	12	
	Subtotal Welding -- Government (stainless steel)	943	266	103	64	115	142	55	131	68	
	2A1	Welding (General Industry) (carbon steel)	17,360	0	0	8,680	8,680	0	0	0	0
		SMAW	12,732	0	0	6,366	6,366	0	0	0	0
		GMAW	3,472	3,472	0	0	0	0	0	0	0
		TIG	1,543	1,543	0	0	0	0	0	0	0
SAW		386	0	0	193	193	0	0	0	0	
Plasma Cutting		386	386	0	0	0	0	0	0	0	
Plasma Welding		2,315	2,315	0	0	0	0	0	0	0	
Resistance Welding		385	0	0	154	231	0	0	0	0	
FCAW		22,021	0	1,233	1,233	8,544	7,333	3,678	0	0	
Confined Space		60,600	7,716	1,233	16,626	24,014	7,333	3,678	0	0	
Subtotal Welding -- General Industry (carbon steel)	60,600	7,716	1,233	16,626	24,014	7,333	3,678	0	0		
2B1	Welding (Maritime Industry) (carbon steel)	20	0	0	10	10	0	0	0	0	
	SMAW	28	0	0	14	14	0	0	0	0	
	GMAW	7	7	0	0	0	0	0	0	0	
	TIG	130	0	0	52	78	0	0	0	0	
	FCAW	4	0	0	2	2	0	0	0	0	
	Plasma Cutting	2	2	0	0	0	0	0	0	0	
	Plasma Welding	4	0	0	2	2	0	0	0	0	
	Oxy-fuel Cutting	2	0	0	1	1	0	0	0	0	
	Air Carbon Arc Cutting/Gouging	0	0	0	0	0	0	0	0	0	
	Electron Torch Cutting	0	0	0	0	0	0	0	0	0	
Thermal Spray Tungsten Carbide	18	18	0	0	0	0	0	0	0		
SAW	2	2	0	0	0	0	0	0	0		
Grinding	412	0	23	23	160	137	69	0	0		
Confined Space	629	29	23	104	267	137	69	0	0		
Subtotal Welding -- Maritime (carbon steel)	629	29	23	104	267	137	69	0	0		
2C1	Welding (Construction Industry) (carbon steel)	42,720	0	0	21,360	21,360	0	0	0	0	
	SMAW	8,750	0	0	4,375	4,375	0	0	0	0	
	Plasma Cutting	0	0	0	0	0	0	0	0	0	
	GMAW	0	0	0	0	0	0	0	0	0	
	Brazing	0	0	0	0	0	0	0	0	0	
	Metallizing	28,934	0	1,619	1,619	11,228	9,636	4,832	0	0	
Confined Space	80,404	0	1,619	27,354	36,963	9,636	4,832	0	0		
Subtotal Welding -- Construction (carbon steel)	80,404	0	1,619	27,354	36,963	9,636	4,832	0	0		

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6	Chromated Copper	15	0	0	0	5	5	5	0	0	
	Arsenate (CCA) Producers	6	0	6	0	0	0	0	0	0	
	CCA Truck Loader	3	0	3	0	0	0	0	0	0	
	Warehouse Operator	3	0	3	0	0	0	0	0	0	
	Subtotal CCA Producers	27	0	12	0	5	5	5	0	0	
	7	Chromium Catalyst Producers	34	0	0	0	1	19	2	2	10
		Wet Process Operator	35	0	0	0	2	5	0	20	8
		Screening Operator	16	0	2	4	8	0	2	0	0
		Quality Control Inspector	15	0	15	0	0	0	0	0	0
		Dry Mix Operator	52	0	52	0	0	0	0	0	0
Process Control Operator		12	0	12	0	0	0	0	0	0	
Control Room Operator		3	0	3	0	0	0	0	0	0	
Forming Operator		9	0	0	0	0	9	0	0	0	
Team Leader		6	0	0	6	0	0	0	0	0	
Lead Person		4	0	0	0	0	1	1	2	0	
Floor Person		31	0	0	4	5	18	2	1	1	
Warehouse Operator		24	0	16	8	0	0	0	0	0	
Maintenance Person		60	0	30	0	15	15	0	0	0	
Solid Waste Handler		12	0	0	0	0	4	4	4	0	
Subtotal Chromium Catalyst Producers		313	0	127	25	31	71	11	29	19	
8	Paint and Coatings Producers	1,201	400	75	38	38	150	0	21	479	
	Batchmaker	600	0	600	0	0	0	0	0	0	
	Packager	384	0	384	0	0	0	0	0	0	
	Shipping/receiving Technician	384	0	384	0	0	0	0	0	0	
	Laboratory Chemist Technician	384	0	384	0	0	0	0	0	0	
Subtotal Paint and Coating Producers	2,569	400	1,443	38	38	150	0	21	479		
9	Printing Ink Producers	68	4	0	0	17	47	0	0	0	
	Batch Weigher	16	4	4	0	0	8	0	0	0	
	Mill Operator	12	6	0	0	6	0	0	0	0	
	Utility Worker	3	0	0	3	0	0	0	0	0	
	Maintenance Worker	13	13	0	0	0	0	0	0	0	
Subtotal Printing Ink Producers	112	27	4	3	17	61	0	0	0		
10	Plastic Colorant Producers and Users	348	0	0	0	0	232	35	58	23	
	Dry Color Handler	30	0	15	15	0	0	0	0	0	
	Wet Mill Operator	40	0	0	0	0	18	1	6	15	
	Dry Color Blender/packager	74	37	0	0	0	0	0	0	37	
	Production Supervisor	492	37	15	15	0	250	36	64	75	
Subtotal Plastic Colorant Producers and Users	492	37	15	15	0	250	36	64	75		

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		Total	Below LOD	LOD to 0.25	0.25 to 0.5	0.5 to 1.0	1.0 to 5.0	5.0 to 10.0	10.0 to 20.0	> 20.0	
14A Steel Mills (carbon)	Raw Material Handler	1,302	0	651	651	0	0	0	0	0	0
	Furnace Operator	3,991	2635	678	678	0	0	0	0	0	0
	Furnace Helper/Laborer	4,945	1236	643	940	2126	0	0	0	0	0
	Crane Operator	3,210	803	0	385	2022	0	0	0	0	0
	Continuous Casting Operator	1,476	738	738	0	0	0	0	0	0	0
	Rolling-Mill Operator	5,726	3092	1718	458	458	0	0	0	0	0
	Welder	3,860	0	154	502	1004	154	1467	579	0	0
	Steel Conditioning Operator	4,858	0	3255	0	1603	0	0	0	0	0
	Subtotal Steel Mills (carbon)	28,368	8,504	7,837	3,614	7,213	154	1,467	579	0	0
	14B Reshaping (stainless)	Raw Material Handler	70	0	0	35	35	0	0	0	0
Laborer		266	128	16	80	21	21	0	0	0	0
Crane Operator		172	0	43	0	21	108	0	0	0	0
Rolling-Mill/Forging Operator		307	147	18	92	25	25	0	0	0	0
Steel Conditioning Operator		261	0	0	175	0	86	0	0	0	0
Subtotal Reshaping		1,076	275	77	382	102	240	0	0	0	0
15 Iron and Steel Foundries	Molders	12,024	2,669	4,016	1,335	2,669	1,335	0	0	0	0
	Furnace Operator	1,728	0	1,083	359	143	143	0	0	0	0
	Crane Operator	1,530	0	0	383	256	891	0	0	0	0
	Pourers	1,584	0	1,584	0	0	0	0	0	0	0
	Shake-out and Abrasive Blasting Operators	396	0	0	0	0	396	0	0	0	0
	Torch Cutter/Gouger	792	0	0	99	198	0	198	99	198	0
	Welder	1,782	0	0	223	445	0	445	223	446	0
	Grinder Operator	6,480	648	3,888	648	0	1,296	0	0	0	0
	Laborer	3,906	867	1,304	434	867	434	0	0	0	0
	Subtotal Iron and Steel Foundries	30,222	4,184	11,875	3,481	4,578	4,495	643	322	644	0

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		Total	Below LOD	LOD to 0.25	0.25 to 0.5	0.5 to 1.0	1.0 to 5.0	5.0 to 10.0	10.0 to 20.0	> 20.0				
27A	Solid Waste Incineration	34	14	0	6	14	0	0	0	0	0	0	0	0
	Shredder/Heavy Equipment Operator	21	21	0	0	0	0	0	0	0	0	0	0	0
	(government)	0												
	Maintenance Mechanic/ Maintenance Helper	21	11	0	5	5	0	0	0	0	0	0	0	0
	Boiler Operator/Assistant Operator	14	10	0	0	4	0	0	0	0	0	0	0	0
	Maintenance Electrician	10	5	0	5	0	0	0	0	0	0	0	0	0
	Truck Operator (ash hauling)	6	3	0	3	0	0	0	0	0	0	0	0	0
	Subtotal Solid Waste Incineration -- Government	106	64	0	19	23	0	0	0	0	0	0	0	0
28	Oil and Gas Well Drilling	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
29	Portland Cement Producers	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
30	Superalloy Producers and Users	72	72	0	0	0	0	0	0	0	0	0	0	0
	Melt Specialist	72	0	0	72	0	0	0	0	0	0	0	0	0
	Reclaim Weigh Operator	48	0	48	0	0	0	0	0	0	0	0	0	0
	EM Operator	168	84	56	28	0	0	0	0	0	0	0	0	0
	VIM/AM Furnace Operator	143	0	36	0	17	90	0	0	0	0	0	0	0
	Crane Operator	236	236	0	0	0	0	0	0	0	0	0	0	0
	Refining Unit Operator	800	400	400	0	0	0	0	0	0	0	0	0	0
	Floor Person	40	30	0	0	0	0	0	0	0	0	10	0	0
	Welder	8	8	0	0	0	0	0	0	0	0	0	0	0
	Inert Screener	144	86	58	0	0	0	0	0	0	0	0	0	0
	Laboratory Technician	288	262	26	0	0	0	0	0	0	0	0	0	0
	Machine Operator	144	144	0	0	0	0	0	0	0	0	0	0	0
	Maintenance Worker	2,163	1,322	624	100	17	90	0	0	0	0	10	0	0
	Subtotal Superalloy Producers	2,163	1,322	624	100	17	90	0	0	0	0	10	0	0
	31	Construction	1,040	156	104	0	156	520	52	52	0	0	0	0
Refractory Brick Repairer		1,213	910	230	73	0	0	0	0	0	0	0	0	0
Hazardous Waste Site Worker		1,684	1,684	0	0	0	0	0	0	0	0	0	0	0
	Industrial Rehabilitation	3,937	2,750	334	73	156	520	52	52	0	0	0	0	0
	Subtotal Construction -- Other Operations	3,937	2,750	334	73	156	520	52	52	0	0	0	0	0

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31	Construction (government)	679	509	129	41	0	0	0	0	0	0
	Hazardous Waste Site Worker					0	0	0	0	0	0
	Industrial Rehabilitation	101	101	0	0	0	0	0	0	0	
	Subtotal Construction -- Other Operations -- Government	780	610	129	41	0	0	0	0	0	0
32A	Ready-Mixed Concrete	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
32	Precast Concrete Products Producer	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	Total	558,431	121,522	85,249	115,769	104,638	62,957	27,759	25,154	15,382	

Source: U.S. Dept. of Labor, OSHA, Office of Regulatory Analysis, 2006.