Supplemental Table H: Comparison of studies included in the meta-analyses

Studies in Suh et al. or Welling et al. (2015)	Industry	Risk ratioss and 95% CIs in the current analysis	Comparisons with other meta-analyses		
			Cole and Rodu et al. (2005) (Verification source: Appendix B tables 14 to 17)	Gatto et al. (2011) (Verification source: Figure 3)	Welling et al. (2015) (Verification source: Supplemental Table 1)
Ahn et al. 2006_Continuous casting	Stainless steel	1.02 (0.45 to 1.99)	Not included	Not included	Used SRR of 13.65 (95%CI 0.76 to 66.26) (stainless steel production of 10 to 35 years)
Ahn et al. 2006_Stainless steel		2.15 (0.35 to 6.94)			
Ahn et al. 2006_Cold mill		0.75 (0.41 to 1.30)			
Amandus 1986_All cohort members	Cement production	1.35 (0.89 to 1.96)	Not included	Not included	Used SMR of 1.27 (95%CI: 0.73 to 2.06)
Amandus 1986_>20y latency		1.27 (0.73 to 2.06)			
Axelsson et al. 1980	Ferrochromium	0.78 (0.21 to 2.01)	Used SMR of 0.91 (95%CI: 0.45 to 1.63)	Included, risk ratio is close to 1	Same as current analysis
Becker 1999_All cohort members	Welding	0.646 (0.209 to 1.505)	Used SMR of 0.65 (95%CI: 0.21 to 1.51)	Included, risk ratio<1	Used SMR of 1.12 (95%CI: 0.30 to 2.86)
Becker 1999_Coated electrodes subcohort		0.585 (0.071 to 2.111)			
Becker 1999_welding_period_>25%		1.118 (0.304 to 2.862)			
Blair et al. 1980	Metal polishing, plating	Not included, PMR study	Used PMR of 0.84 (95%CI 0.46 to 1.41)	Not included	Not included
Cammarano et al. 1984	Thermoelectric	Not included, does not mention Cr(VI) exposure	Used SMR of 2.73 (95% CI: 0.56 to 7.97); poor quality study (<75 points); no SES control	Not included	Not included
Dab et al. 2011	Cement production	0.38 (0.08 to 1.26)	Not included	Not included	Same as current analysis
Danielsen et al.1996_All cohort members	Welding	0.86 (0.5 to 1.37)	Not included	Not included	Used SIR of 1.03 (95%CI: 0.21 to 3.03)
Danielsen et al. 1996_Welding stainless steel subcohort		1.03 (0.21 to 3.03)	Not included		
Davies et al. 1991_All cohort members	Chromate production	0.73 (0.44 to 1.14)	Used SMR of 0.73 (95% CI 0.44 to 1.14)	Included, risk ratio<1	Used SMRs specific to the each plants. Did not use the SMR for the entire cohort
Davies et al. 1991_Bolton plant		2.08 (0.76 to 4.53)			
Davies et al. 1991_Eaglescliff plant		0.39 (0.10 to 0.99)			
Davies et al. 1991_Ruthergien plant		0.7 (0.32 to 1.32)			
Dechamps et al. 1995	Chromate pigment production	1.52 (0.18 to 5.50)	Used SMR of 1.54 (95%CI: 0.19 to 5.56); poor quality study (<75 points); no SES control	Included, risk ratio>1	Same as current analysis
Edling et al. 1986	Leather tanning	1.5 (0.60 to 4.00)	Not included	Not included	Instead of SMR (used in current analysis), crude ratio or Mantel-Haenszel rate ratio of 1.6 (95%CI: 0.6 to 4.0) used.
Franchini et al. 1983_>10y latency	Chrome plating	3.33 (0.04 to 18.65)	Same as current analysis; poor quality study (<75 points); no SES control	Included, risk ratio>1	Same as current analysis

Studies in Suh et al. or Welling et al. (2015)	Industry	Risk ratioss and 95% CIs in the current analysis	Comparisons with other meta-analyses		
			Cole and Rodu et al. (2005) (Verification source: Appendix B tables 14 to 17)	Gatto et al. (2011) (Verification source: Figure 3)	Welling et al. (2015) (Verification source: Supplemental Table 1)
Garabrant and Wegman et al. 1984	Leather	Not included, PMR study	Not included	Not included	Used PMR of 1.69 (95%CI: 0.97 to 2.74)
Gonzales et al. 1991	Brick mason, leather	Not included, generak job categories without specifications of direct exposures to Cr(VI)	Not included	Not included	Used OR of 1.69 (95%CI: 0.97 to 2.74) and 1.82 (95%CI: 0.40 to 8.25)
Gibb et al. 2015	Chromate production	0.48 (0.19 to 0.99)	Used data from Gibb et al. (2000); SMR of 0.40 (95%CI: 0.08 to 1.17)	Included data from Gibb et al. (2000)	Data from Gibb et al. (2000) not included
Guberan et al. 1989_Morbidity	Painters	0.67 (0.26 to 1.40)	Not included	Included, risk ratio<1	Not included
Guberan et al. 1989_Mortality		0.24 (0.01 to 1.16)			
Hara et al. 2010	Chromium platers	0.67 (0.37 to 1.06)	Not included	Included, risk ratio<1	Same as current analysis
Hayes et al. 1989_>10y employment	Chromate pigment	2.14 (0.24 to 7.73)	Used SMR of 2.00 (95%CI: 0.54 to 5.12)	Included, risk ratio>1	Same as current analysis
Horiguchi et al. 1990_All cohort members	Plating	1.23 (0.25 to 3.58)	Used SMR of 1.20 (95%CI: 0.25 to 3.50); no SES control	Included, risk ratio>1	Used the SMR for 10+ year of amployment
Horiguchi et al. 1990_10+y employment		1.43 (0.02 to 7.50)			
Huvinen and Pukkala 2013	Ferrochromium and stainless steel production	0.8 (0.42 to 1.40)	Not included	Not included	Same as current analysis
Iaia et al. 2006	Leather tanning	0.27 (0.01 to 1.50)	Not included	Included, risk ratio<1	Not included
Jakobsson et al. 1993_Morbidity	Cement production	1.01 (0.55 to 1.69)	Not included	Not included	Used SIR of 1.14 (95%CI 0.61 to 1.94)
Jakobsson et al. 1993_Mortality		0.85 (0.45 to 1.45)			
Jakobsson et al. 1997	Stainless steel production	0.8 (0.30 to 1.70)	Used SMR of 0.83 (95%CI: 0.36 to 1.64)	Not included	Same as current analysis
Jarvholm et al. 1982	Polishing	Not included, does not mention Cr(VI) exposure	Used SMR of 9.76 (95%CI: 2.72 to 25.60); no SES control	Not included	Used SMR of 9.76 (95%CI: 2.62 to 25.0)
Kano et al. 1993	Chromate pigment production	1.2 (0.52 to 2.37)	Similar SMR and 95%CIs used compared to the current analysis	Included, risk ratio>1	Same as current analysis
Kneller et al. 1990	Leather products, leather tanning, feltmongers, pelt dressers	Not included, generak job categories without specifications of direct exposures to Cr(VI), no mention of Cr(VI) anywhere in the text	Not included	Not included	Used SIR of 1.50 (95%CI: 1.13 to 1.95) and SIR of 0.94 (95%CI: 0.30 to 2.19)
Koh et al. 2013_All cohort members	Cement production	1.7 (0.19 to 2.76)	Not included	Not included	Used SIR for high dust exposure cateogry (2.18, 95%CI: 1.19 to 3.65)
Koh et al. 2013_High dust exposure category		2.18 (1.19 to 3.65)			
Korallus et al. 1993_ All cohort members	Chromate production	1.26 (0.72 to 2.05)	Used the same SMR for entire cohort; 95%CL 0.73 to 2.06	Included, risk ratio>1	Used SMRs for the specific plants
Korallus_1993_Leverkusen		0.63 (0.17 to 1.60)			
Korallus_1993_Uerdingen		1.92 (1.04 to 3.24)			
Krstev et al. 2005_Men	Leather goods	5.1 (1.0 to 25.0)	Not included	Not included	Same as current analysis
Krstev et al. 2005_Women		3.1 (0.70 to 14.9)			

Studies in Suh et al. or Welling et al. (2015)	Industry	Risk ratioss and 95% CIs in the current analysis	Comparisons with other meta-analyses		
			Cole and Rodu et al. (2005) (Verification source: Appendix B tables 14 to 17)	Gatto et al. (2011) (Verification source: Figure 3)	Welling et al. (2015) (Verification source: Supplemental Table 1)
Kusiack et al. 1993	Uranium mining	Not included, does not mention Cr(VI) exposure	Used SMR of 1.47 (95%CI: 1.17 to 1.84); poor quality study (<75 points); no SES control	Not included	Not included
Langard et al. 1990	Ferrochromium	1.45 (0.58 to 2.99)	Used SMR of 1.57 (95%CI: 0.51 to 3.66)	Included, risk ratio>1	Same as current analysis
Lipworth et al. 2011	Aircraft manufacturing	0.72 (0.47 to 1.05)	Not included	Included Boice et al. (1999), risk ratio close to 1	Same as current analysis
Mallin et al. 1989	Brick mason, stone mason	Not included, general job categories without specifications of direct exposures to Cr(VI)	Not included	Not included	OR of 4.30 (95%CI: 1.18 to 15.6)
McDowall et al. 1984_All cohort members	Cement production	1.75 (1.10 to 2.65)	Not included	Not included	Used three SMRs: 3.21 (95%CI: 0.86 to 8.22), 1.48 (95%CI 0.67 t 2.81), and 2.11 (95%CI: 0.91 to 4.16)
McDowall_1984_Laborers specified as packing or loading		3.21 (0.86 to 8.22)			
Mikoczy and Hagmar 2005	Leather tanning	Not included, describes chrome tanning but also exposure to other chemicals, hard to separate	Not included	Not included	Used SIR of 0.98 (95%CI: 0,52 to 1.68)
Mikoczy et al. 1994	Leather tanning	0.78 (0.36 to 1.48)	Not included	Not included	Not included
Montanaro et al. 1997	Chrome tannery	0.79 (0.38 to 1.46)	Same SMR as current analysis (95%CI: 0.38 to 1.45); no SES control	Included, risk ratio>1	Same as current analysis
Moulin et al. 1990	Ferrochromium and stainless steel production	2.75 (0.75 to 7.01)	Used SMR of 2.67 (95%CI: 0.73 to 6.84)	Included, risk ratio at 1	Same as current analysis
Moulin et al. 1992-PlantA	stainless steel production	1.57 (0.43 to 4.03)	Not included	Not included	Not included
Moulin et al. 1992_PlantB		0.84 (0.34 to 1.73)			
Moulin et al. 1993a	Welding	2.09 (0.77 to 4.55)	Used SMR of 2.07 (95%CI: 0.76 to 4.51)	Not included	Same as current analysis
Moulin et al. 1993b	Stainless steel production	0.92 (0.37 to 1.9)	Not included	Included, risk ratio <1	Same as current analysis
Moulin et al. 1993c	Welding	3.13 (0.85 to 8.02)	Not included	Not included	Not included
Moulin_1995_plant1	Stainless steel production	1.04 (0.68 to 1.52)	Not included	Not included	Same as current analysis
Moulin_1995_plant2		0.84 (0.47 to 1.38)			
Parent et al. 1998	Leather	Not included, general job categories without specifications of direct exposures to Cr(VI), authors do not mention Cr(VI) anywhere in the text	Not included	Not included	Used OR of 1.0 (95%CI: 0.5 to 1.9)
Pippard et al. 1985	Leather tanning	0.52 (0.06 to 1.87)	Used SMR of 0.51 (95%CI: 0.06 to 1.84)	Included, risk ratio <1	Same as current analysis
Proctor et al. 2016	Chromate production	1.44 (0.18 to 2.7)	Used data from Luippold et al. (2003): SMR of 0.47 (95%CI: 0.01 to 2.62)	Included, used data from Luippold et al. (2003), risk ratio <1	Not included, did not include data from Luippold et al. (2003)
Pukkala et al. 2009	Bricklayers	Not included, a registry study with general occupation listings.	Not included	Not included	Used SIRs of 1.06 (95%CI: 0.89 to 1.25); 0.95 (95%CI: 0.76 to 1.17); 1.20 (95%CI: 1.03 to 1.40), 1.56 (95%CI: 0.19 to 5.65)
Rafnsson et al. 1997	Masons	1.08 (0.67 to 1.65)	Used SMR of 1.27 (95%CI: 0.71 to 2.10)	Included, risk ratio is close to 1	Used SIR of 1.27 (95%CI: 0.71 to 2.09)
Robinson et al. 1995	Brick mason	Not included, PMR study	Not included	Not included	Used PMR of 2.08 (95%CI: 1.42 to 2.93)

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			Cole and Rodu et al. (2005) (Verification source: Appendix B tables 14 to 17)	Gatto et al. (2011) (Verification source: Figure 3)	Welling et al. (2015) (Verification source: Supplemental Table 1)
Rosenman and Stanbury 1996	Smelter	Not included, PMR study	Not included	Not included	Used PMR of 1.87 (95%CI: 0.21 to 6.76)
Salg and Alterman 2005	Bricklayers	Not included, PMR study	Not included	Not included	Used PMRs of 1.17 (95%CI: 0.50 to 2.31) and 1.31 (95%CI: 1.06 to 1.60)
Santibanez et al. 2012	Bricklayers	Not included, details on jos are only codes (no other descriptions provided)	Not included	Not included	Used ORs of 1.20 (95%CI: 0.65 to 2.22) and 1.37 (95%CI: 0.40 to 4.66)
Satoh et al. 1981	Chrome production	0.95 (0.47 to 1.70)	Same as current analysis; no SES control	Included, risk ratio is close to 1	Same as current analysis
Silverstein et al. 1981	Die-casting and electroplating	Not included, PMR study	Used PMR of 1.33 (95%CI 0.36 to 3.40); poor quality study (<75 points); no SES control	Included, risk ratio>1	Used PMR of 2.54 (95%CI: 0.68 to 6.50)
Sjodahl et al. 2007	Construction workers	Not included, multiple co-exposures to other chemicals indicated	Not included	Not included	Used IRR 1.5 (95%CI: 1.1 to 2.1)
Smailyte et al. 2004_All cohort members	Cement production	0.9 (0.40 to 1.40)	Not included	Not included	Used SMR of 1.5 (95%CI: 0.60 to 3.0)
Smailyte et al. 2004_High dust exposure category		1.5 (0.60 to 3.00)			
Sorahan et al. 1987_All cohort members	Chrome plating	1.54 (1.00 to 2.28)	Used the same SMR (and 95%CIs) for entire cohort	Included, risk ratio>1	Used SMRs of 0.32 (95%CI: 0.01 to 1.78), 2.06 (95%C: 1.10 to 3.52)
Sorahan et al. 1987_Chrome bath subcohort		1.49 (0.81 to 2.5)			
Sorahan et al. 1994_All cohort members	Steel foundry	1.34 (1.11 to 1.60)	Used the same SMR (and 95%CIs) for entire cohort	Included, risk ratio>1	Not included
Sorahan et al. 1994_>15y_employment		0.85 (0.47 to 1.53)			
Sorahan and Harrington 2000_Men	Chrome plating	1.68 (0.87 to 2.94)	Used SMR of 1.56 (95%CI: 0.81 to 2.73)	Included, risk ratio>1	Used SMR of 1.68 (95%cI: 0.87 to 2.94)
Sorahan and Harrington 2000_Women		0 (NA)			
Stern et al. 2001		Not included, PMR study	Not included	Not included	Used PMR of 1.64 (95%CI: 1.35 to 1.98)
Sweeney et al. 1985	Fur dressers	1.37 (0.15 to 4.95)	Not included	Not included	Same as current analysis
Walrath et al. 1987	Leather	Not included, PMR study	Not included	Not included	Used PMRs of 1.28 (95%CI: 0.70 to 2.15), 1.83 (95%CI: 1.43 to 2.31)
Weiderpass et al. 2003	All types of occupations	Not included, occupations not provided, unclear as to how job titles were convereted to exposures to 31 occupational agents	Not included	Not included	Used RR of 0.50 (95%CI: 0.23 to 1.12)
Xu et al. 1996	Plating	2.4 (0.90 to 6.1)	Not included	Not included	Used ORs of 1.2 (95%CI: 0.3 to 4.3) and 2.1 (95%CI: 0.7 to 6.3)
Zhang et al. 1997	Not applicable; ecologic drinking water study of Chinese villagers	Not included for meta-analysis because ecologic study, however, narratively characterized Beaumont et al. (2008) and Kerger et al. (2009) studies	SMR of 0.75 (95%CI: 0.44 to 1.20)	Not included	Not included