

List No.	Substance	CAS-No.	EINECS-No.
82	Chromium and chromium II and III compounds (as Cr)	7440-47-3	231-157-5

No.	Source and method name	Language	Year of publication	Principle of the method	Flow rate/ Recommended air volume	LOQ/ Validated working range	Indicative rating	Remarks
1	ISO 15202 Workplace air — Determination of metals and metalloids in airborne particulate matter by Inductively Coupled Plasma Atomic Emission Spectrometry Part 1: Sampling. Part 2: Sample preparation Part 3: Analysis	English French	Part 1: 2000 Part 2: 2001 Part 3: 2004	Particulates trapped on a suitable filter in an inhalable sampler. Hotplate dissolution with 1+1 HNO ₃ and HCl; or 1+1 H ₂ SO ₄ , H ₂ O ₂ and HCl; or HNO ₃ , HClO ₄ and, if silicates are present, HF. Ultrasonic dissolution with HF and HNO ₃ . Microwave dissolution with HNO ₃ and HF; or HNO ₃ , HClO ₄ and HF; or HNO ₃ and HClO ₄ . Analysis by ICP-AES.	Flow rate: Sampler-dependent Recommended sampling time: 15 min–8 h	LOQ: 0,0006 mg/m ³ 480 l	A	Some dissolution procedures might not be applicable in all instances (e.g. for stainless steel welding fume)
2	MDHS 12/2 Chromium and inorganic compounds of chromium in air	English	1996	Particulates trapped on an MCE filter mounted in an inhalable sampler. Various dissolution methods (HCl/HNO ₃ , HNO ₃ /HClO ₄ , microwave HNO ₃ , KHSO ₄ fusion, Na ₂ O ₂ fusion). Analysis by FAAS.	2 l/min 60-960 l	LOQ: 0,002-0,1 mg/m ³ 480 l	A	
3	MDHS 91 Metals and metalloids in workplace air by X-ray fluorescence spectrometry	English	1998	Particulates trapped on an MCE or other suitable filter mounted in an inhalable sampler. Analysis by XRF.	2 l/min 60–960 l	LOQ: 0,0033 mg/m ³ 60 l	A	Filter only analysis

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4	MétroPol 003 Métaux - Métalloïdes	French	2003	Particulates trapped on a quartz fibre filter in a 37mm filter cassette. Ultrasonic dissolution using HF and HNO ₃ in the filter cassette. Analysis by FAAS, ETAAS or ICP-AES.	1 l/min 240 l	LOD: ICP-AES: 0,00002 mg/m ³ 240 l	B	Inhalable sampler not used, but wall deposits analysed Performance data not published in the method Similar ICP-AES method described in ISO 15202
5	MTA/MA-025/A92 Determinacion de metales y sus compuestos ionicos en aire – Metodo filtro de membrana/ espectrofotometria de absorcion atomica	Spanish	1992	Particulates trapped on an MCE filter in a 37mm filter cassette. Hotplate dissolution with HNO ₃ and H ₂ O ₂ . Analysis by FAAS.	1-2 l/min	LOQ: 0,02 µg/filter 480 l	B	Inhalable sampler not used Dissolution procedure might not be applicable in all instances (e.g. for stainless steel welding fume) Similar method described in MDHS 12/2
6	BIA 6645 Chrom	German	2001	Particulates trapped on an MCE filter mounted in an inhalable sampler. Hotplate dissolution with HNO ₃ and HCl. Analysis by ETAAS.	3,5 l/min 420 l	LOQ: 0,048 mg/m ³ 420 l	B	Brief method description Dissolution procedure might not be applicable in all instances (e.g. for stainless steel welding fume) Similar method described in MDHS 12/2

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7	OSHA ID-121 Metal and metalloid particulates in workplace atmospheres (Atomic absorption)	English	2002	Particulates trapped on an MCE filter in a 37mm filter cassette. Hotplate dissolution with HNO ₃ and H ₂ O ₂ . Analysis by FAAS.	2 l/min 30-960 l	LOQ: 0,0021 mg/m ³ 480 l	B	Inhalable sampler not used Dissolution procedure might not be applicable in all instances (e.g. for stainless steel welding fume)
8	OSHA ID-125G Metal and metalloid particulates in workplace atmospheres (ICP)	English	2002	Particulates trapped on an MCE filter or a PVC filter (for sampling welding fume) in a 37mm filter cassette. Hotplate dissolution: with H ₂ SO ₄ , HNO ₃ , H ₂ O ₂ and HCl (MCE filters) or HNO ₃ and HClO ₄ (PVC filters). Analysis by ICP-AES.	2 l/min 30-960 l	LOQ: 0,03 mg/m ³ 480 l	B	Inhalable sampler not used Similar method described in ISO 15202
9	NIOSH 7024 Chromium and compounds as Cr	English	1994	Particulates trapped on an MCE filter in a 37mm filter cassette. Hotplate dissolution with HCl and HNO ₃ . Analysis by FAAS.	1-3 l/min 10-1000 l	LOQ: 0,0004 mg/m ³ 480 l	B	Inhalable sampler not used Dissolution procedure might not be applicable in all instances (eg for stainless steel welding fume) Similar method described in MDHS 12/2

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10	NIOSH 7300 Elements by ICP (Nitric/Perchloric Acid Ashing)	English	2003	Particulates trapped on an MCE or PVC filter in a 37mm filter cassette. Hotplate dissolution with HNO ₃ and HClO ₄ . Analysis by ICP-AES.	1-4 l/min 5-1000 l	LOQ: 0,0001 mg/m ³ 480 l	B	Inhalable sampler not used Similar method described in ISO 15202
11	NIOSH 7301 Elements by ICP (Aqua regia ashing)	English	2003	Particulates trapped on an MCE or PVC filter in a 37mm filter cassette. Hotplate dissolution with HNO ₃ and HCl. Analysis by ICP-AES.	1-4 l/min 5-1000 l	LOQ: 0,0001 mg/m ³ 480 l	B	Inhalable sampler not used Dissolution procedure might not be applicable in all instances (e.g. for stainless steel welding fume) Similar method described in ISO 15202
12	NIOSH 7303 Elements by ICP Hot block HCl/HNO ₃ digestion	English	2003	Particulates trapped on an MCE filter in a 37mm filter cassette. Hot block dissolution with HNO ₃ and HCl. Analysis by ICP-AES.	1-4 l/min	LOQ: 0,0016 mg/m ³ 480 l	B	Inhalable sampler not used Dissolution procedure might not be applicable in all instances (e.g. for stainless steel welding fume) Similar method described in ISO 15202