

List No.	Substance	CAS-No.	EINECS-No.
77	Tin compounds, inorganic, except SnH <sub>4</sub> (as Sn)	7440-31-5	231-141-8

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	<a href="#">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</a>	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 <sub>3</sub> and HCl; or 1+1 H <sub>2</sub> SO <sub>4</sub> , H <sub>2</sub> O <sub>2</sub> and HCl; or HNO <sub>3</sub> , HClO <sub>4</sub> and, if silicates are present, HF.  Ultrasonic dissolution with HF and HNO <sub>3</sub> .  Microwave dissolution with HNO <sub>3</sub> and HF; or HNO <sub>3</sub> , HClO <sub>4</sub> and HF; or HNO <sub>3</sub> and HClO <sub>4</sub> .  Analysis by ICP-AES.	Flow rate: Sampler-dependent  Recommended sampling time: 15 min–8 h	LOQ: 0,017 mg/m <sup>3</sup> 30 l  0,010 mg/m <sup>3</sup> 480 l	A	Dissolution procedures might not be applicable for tin dioxide
2	<a href="#">MDHS 91 Metals and metalloids in workplace air by X-ray fluorescence spectrometry</a>	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: K $\alpha$ line 0,083 mg/m <sup>3</sup> 60 l  L $\alpha$ line 0,00083 mg/m <sup>3</sup> 60 l	A	Filter only analysis
3	DFG Meth. Nr.1 Gesamtzinn	German	1992	Particulates trapped on a GF filter and organic tin compounds on ion exchange resin Amberlite CG 120 I.  Dissolution with HCl and propan-2-ol.  Analysis by ETAAS.		LOQ: 0,00036 mg/m <sup>3</sup> 300 l	C	Includes organic tin  Dissolution procedures might not be applicable for tin dioxide

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4	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 37 mm cassette filter holder. Hotplate dissolution with HNO <sub>3</sub> . Analysis by FAAS.	1-2 l/min >200 l	LOQ: 0,03 mg/m <sup>3</sup> >200 l	C	Inhalable sampler not used Dissolution procedure might not applicable for tin Refers to OSHA ID-121 for performance data
5	NIOSH 7300 Elements by ICP (nitric/perchloric ashing)	English	2003	Particulates trapped on an MCE filter in a 37 mm cassette filter holder. Hotplate dissolution with HNO <sub>3</sub> and HClO <sub>4</sub> . Analysis by ICP-AES.	1-4 l/min 50-2000 l	LOQ: 0,0044 mg/m <sup>3</sup> 30 l 0,00028 mg/m <sup>3</sup> 480 l	C	Inhalable sampler not used Dissolution procedure might not applicable for tin Similar method described in ISO 15202
6	NIOSH 7301 Elements by ICP (aqua regia ashing)	English	2003	Particulates trapped on an MCE or PVC filter in a 37 mm cassette filter holder. Hotplate dissolution with HCl and HNO <sub>3</sub> . Analysis by ICP-AES.	1-4 l/min 50-2000 l	LOQ: 0,0044 mg/m <sup>3</sup> 30 l 0,00028 mg/m <sup>3</sup> 480 l	B	Inhalable sampler not used Dissolution procedure might not applicable for tin oxide Similar method described in ISO 15202

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7	NIOSH 7303 Elements by ICP (Hot block HCl/HNO <sub>3</sub> digestion)	English	2003	Particulates trapped on an MCE filter in a 37 mm cassette filter holder. Hot block dissolution with HCl and HNO <sub>3</sub> . Analysis by ICP-AES.	1-4l/min 35l-100 m <sup>3</sup>	LOQ: 0,042 mg/m <sup>3</sup> 30 l 0,0026 mg/m <sup>3</sup> 480 l	B	Inhalable sampler not used Dissolution procedure might not applicable for tin oxide Similar method described in ISO 15202
8	<a href="#">OSHA ID-121 Metal and metalloid particulates in workplace atmospheres (Atomic absorption)</a>	English	2002	Particulates trapped on an MCE filter in a 37 mm cassette filter holder. Hotplate dissolution with HNO <sub>3</sub> and HCl. Analysis by FAAS.	2 l/min 30-960 l	LOQ: 0,083 mg/m <sup>3</sup> 30 l 0,0052 mg/m <sup>3</sup> 480 l	A	Inhalable sampler not used Dissolution procedure might not applicable for tin oxide
9	OSHA ID-206 ICP analysis of metal/metalloid particulates from solder operations	English	1991	Particulates trapped on an MCE filter in a 37 mm cassette filter holder. Hotplate dissolution with HNO <sub>3</sub> and HCl. Analysis by ICP-AES.	2 l/min 30-960 l	LOQ: 0,2 mg/m <sup>3</sup> 30 l 0,013 mg/m <sup>3</sup> 480 l	B	Inhalable sampler not used Dissolution procedure might not applicable for tin oxide Similar to method described in ISO 15202