



# National Environment Protection (Assessment of Site Contamination) Measure 1999

as amended

made under section 14(1) of the

*National Environment Protection Council Act 1994 (Cwlth), the National Environment Protection Council (New South Wales) Act 1995 (NSW), the National Environment Protection Council (Victoria) Act 1995 (Vic), the National Environment Protection Council (Queensland) Act 1994 (Qld), the National Environment Protection Council (Western Australia) Act 1996 (WA), the National Environment Protection Council (South Australia) Act 1995 (SA), the National Environment Protection Council (Tasmania) Act 1995 (Tas), the National Environment Protection Council Act 1994 (ACT) and the National Environment Protection Council (Northern Territory) Act 1994 (NT)*

**Compilation start date:** 16 May 2013

**Includes amendments up to:** *National Environment Protection (Assessment of Site Contamination) Amendment Measure 2013 (No. 1)*

This compilation has been split into 22 volumes

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## **About this compilation**

### **The compiled instrument**

This is a compilation of the *National Environment Protection (Assessment of Site Contamination) Measure 1999* as amended and in force on 16 May 2013. It includes any amendment affecting the compiled instrument to that date.

This compilation was prepared on 22 May 2013.

The notes at the end of this compilation (the *endnotes*) include information about amending Acts and instruments and the amendment history of each amended provision.

### **Uncommenced provisions and amendments**

If a provision of the compiled instrument is affected by an uncommenced amendment, the text of the uncommenced amendment is set out in the endnotes.

### **Application, saving and transitional provisions for amendments**

If the operation of an amendment is affected by an application, saving or transitional provision, the provision is identified in the endnotes.

### **Modifications**

If a provision of the compiled instrument is affected by a textual modification that is in force, the text of the modifying provision is set out in the endnotes.

### **Provisions ceasing to have effect**

If a provision of the compiled instrument has expired or otherwise ceased to have effect in accordance with a provision of the instrument, details of the provision are set out in the endnotes.





APPENDIX D Blood lead model assumptions

IEUBK Modelling Input Parameters - Child Receptors

Parameter	Unit	Child Resident (0-1)	Child Resident (1-2)	Child Resident (2-3)	Child Resident (3-4)	Child Resident (4-5)	Child Resident (5-6)	Child Resident (6-7)	Source
<b>Background Exposure Parameters</b>									
<i>Air</i>									
Ratio of indoor dust lead concentration to corresponding outdoor concentration	%	30	30	30	30	30	30	30	IEUBK default value (US EPA 1989a)
Outdoor air dust lead concentration (constant value)	ug/m <sup>3</sup>	0.1	0.1	0.1	0.1	0.1	0.1	0.1	IEUBK default value (US EPA 1989a)
Daily time spent outdoors on-site (HIL A)	hr/day	1	2	3	4	4	4	4	IEUBK default value (US EPA 1989a) also consistent with data from Brinkman et al. (1999)
Daily time spent outdoors on-site (HIL B)	hr/day	1	1	1	1	1	1	1	HIL B Exposure Scenario
Daily time spent outdoors on-site (HIL C)	hr/day	1	2	2	2	2	2	2	HIL C Exposure Scenario, also considering data from Brinkman et al. (1999) for infants.
Lung absorption	%	32	32	32	32	32	32	32	IEUBK default value (US EPA 1989a)
Ventilation rate (HIL A, HIL B)	m <sup>3</sup> /day	5.7	8.77	9.76	10.64	11.4	12.07	12.25	Mean inhalation rates as per US EPA (2008), as per Table 6-16.
Ventilation rate (HIL C)	m <sup>3</sup> /day	18.7	18.7	18.7	23	23	23	23	Mean inhalation rates as per US EPA (2008) for short-duration exposures, moderate activity.
<i>Diet</i>									
Lead dietary intake (HIL A, HIL B, HIL C)	ug/day	5.1	5.8	6.7	3.2	3.6	4.1	4.7	Food Standards (2003), <i>The 20th Australian Total Diet Survey</i> , with conversion to ug/day using mean body weights from US EPA (2008).
Bioavailability of lead in food	unitless	0.5	0.5	0.5	0.5	0.5	0.5	0.5	IARC (2006)
<i>Soil/Dust</i>									
Outdoor soil lead concentration	ug/g	100	100	100	100	100	100	100	Arbitrary value
Indoor dust lead concentration (multiple source analysis) (HIL A & HIL B)	ug/g	70	70	70	70	70	70	70	Calculated by the IEUBK model using multiple source analysis to calculate lead concentration of indoor dust using a 70% contribution of soil to indoor dust.
Indoor dust lead concentration (multiple source analysis) (HIL C)	ug/g	0	0	0	0	0	0	0	HIL C Exposure Scenario has no building
Contribution of soil lead to indoor building dust lead	%	70	70	70	70	70	70	70	IEUBK default value (US EPA 1994)
Percent of total soil and dust ingestion that is soil	%	50	50	50	50	50	50	50	enHealth (2004)
Bioavailability of lead in soil/dust	%	50	50	50	50	50	50	50	IARC (2006)
Ingestion rate of soil and dust (HIL A)	g/day	0.032	0.1	0.1	0.1	0.1	0.1	0.1	As per exposure factors adopted for HIL C, NEPM B7
Ingestion rate of dust (HIL B)	g/day	0.008	0.025	0.025	0.025	0.025	0.025	0.025	As per exposure factors adopted for HIL C, NEPM B7
Ingestion rate of soil and dust (HIL C)	g/day	0.016	0.05	0.05	0.05	0.05	0.05	0.05	As per exposure factors adopted for HIL C, NEPM B7
<i>Other</i>									
Fraction passive/total accessible	unitless	0.2	0.2	0.2	0.2	0.2	0.2	0.2	IEUBK default value
Half saturation level	ug/day	100	100	100	100	100	100	100	IEUBK default value
<i>Drinking Water</i>									
Lead concentration in drinking water	ug/L	0.7	0.7	0.7	0.7	0.7	0.7	0.7	Average concentrations in SA drinking water, considered representative.
Bioavailability of lead in water	unitless	0.5	0.5	0.5	0.5	0.5	0.5	0.5	IARC (2006)
Water consumption	L/day	0.49	0.308	0.356	0.417	0.417	0.417	0.48	US EPA (2008) mean values
<i>Background Lead Allocation</i>									
Maternal blood lead concentration	ug/dL	1	1	1	1	1	1	1	IEUBK default value

enHealth (2004), Environmental Health Risk assessment, Guidelines for assessing Human Health Risks from Environmental Hazards, Department of Health and Aging and EnHealth Council, June 2004.

IARC (2006), International Agency for Research on Cancer, IARC Monographs on the Evaluation of Carcinogenic Risks to Humans, Inorganic and Organic Lead Compounds, vol. 87, IARC Press, World Health Organization, Lyon, France.

US EPA (2008), Child-Specific Exposure Factors Handbook, EPA-600-P-00-002B, 2008.

US EPA (1998), The conceptual structure of the integrated exposure uptake biokinetic model for lead in children, Environmental Health Perspectives. Supplements, 106; S6

US EPA (2007), Users guide for the Integrated Exposure Uptake Biokinetic Model for Lead in Children (IEUBK), EPA 9285.7-42.

enHealth 2012, Australian exposure factor guidance, Environmental Health Subcommittee (enHealth) of the Australian Health Protection Principal Committee, Canberra, Australia.