

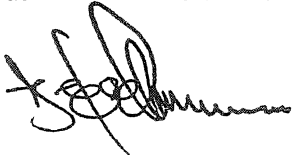
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**GOVERNMENT NOTICE**

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**DEPARTMENT OF ENVIRONMENTAL AFFAIRS****No. 331****2 May 2014****NATIONAL ENVIRONMENTAL MANAGEMENT: WASTE ACT, 2008  
(ACT NO. 59 OF 2008)****NATIONAL NORMS AND STANDARDS FOR THE REMEDIATION OF CONTAMINATED LAND AND  
SOIL QUALITY**

I, Bomo Edith Edna Molewa, Minister of Water and Environmental Affairs, hereby publish national norms and standards for the remediation of contaminated land and soil quality, under section 7(2)(d) of the National Environmental Management: Waste Act, 2008 (Act No. 59 of 2008), for implementation as set out in the Schedule hereto.



**BOMO EDITH EDNA MOLEWA  
MINISTER OF WATER AND ENVIRONMENTAL AFFAIRS**

## SCHEDULE

### 1. Definitions

In these norms and standards, unless the context indicates otherwise, word or expression that is defined in the National Environmental Management: Waste Act, 2008 (Act No. 59 of 2008) and the National Environmental Management Act, 1998, has the same meaning—

**“Contaminant”** means any substance present in an environmental medium at concentrations in excess of natural background concentrations that has a potential to cause harm to human health or the environment;

**“Informal Residential”** means an unplanned settlement on land which has not been zoned as a residential consisting mainly of makeshift structure not erected according to approved architectural plans;

**“Remediation”** means the management of a contaminated site to prevent, minimise, or mitigate harm to human health or the environment;

**“Soil Screening Value 1”** means soil quality values that are protective of both human health and ecotoxicological risk for multi-exposure pathways, inclusive of contaminant migration to the water resource;

**“Soil Screening Value 2”** means soil quality values that are protective of risk to human health in the absence of a water resource;

**“Standard Residential”** means settlement that is formally zoned and serviced, and generally developed according to approved building plans, including land parcels such as plots or erven.

## 2. Purpose

The purpose of these norms and standards is to—

- (a) provide a uniform national approach to determine the contamination status of an investigation area;
- (b) limit uncertainties about the most appropriate criteria and method to apply in the assessment of contaminated land; and
- (c) provide minimum standards for assessing necessary environmental protection measures for remediation activities.

## 3. Application

The requirements set out in these norms and standards apply to an owner of land or any person who undertakes site assessment and remediation activity in terms of the National Environmental Management: Waste Act, 2008 (Act No. 59 of 2008).

## 4. Scope of this Norms and Standards

- (1) These norms and standards must be used for the screening of a site after a site assessment report is required as a result of declaration of an investigation area as contemplated in section 36 of the National Environmental Management Act, 2008 (Act No. 59 of 2008).
- (2) Where a contaminant is not listed in Table 1 or Table 2, values which are scientifically validated for the contaminants of interest may be used.
- (3) The Soil Screening Values in Table 1 and Table 2 must not be seen as—
  - (i) absolute minimum values; or
  - (ii) default remediation values.

## 5. Soil Screening Values

(1) The Soil Screening Values in Table 1 and Table 2 below are for screening purpose.

**Table 1: Soil Screening Values for Metals and Organics**

Parameter	Units	SSV1	SSV2	SSV2	SSV2
		All Land-Uses Protective of the Water Resource	Informal Residential	Standard Residential	Commercial/ Industrial
<b>Metals and metalloids</b>					
Arsenic	mg/kg	5,8	23	48	150
Cadmium	mg/kg	7,5	15	32	260
Chromium (III)	mg/kg	46 000	46 000	96 000	790 000
Chromium (VI)	mg/kg	6,5	6,5	13	40
Cobalt	mg/kg	300	300	630	5 000
Copper	mg/kg	16	1 100	2 300	19 000
Lead	mg/kg	20	110	230	1 900
Manganese	mg/kg	740	740	1 500	12 000
Mercury	mg/kg	0,93	0,93	1,0	6,5
Nickel	mg/kg	91	620	1 200	10 000
Vanadium	mg/kg	150	150	320	2 600
Zinc	mg/kg	240	9 200	19 000	150 000
<b>Alkanes</b>					
C7-C9	mg/kg	2 300	2 300	2 400	23 000
C10-C14	mg/kg	440	440	500	4 400
C15-C36	mg/kg	45 000	45 000	91 000	740 000
<b>Monocyclic Aromatic Hydrocarbons</b>					
Benzene	mg/kg	0,03	1,3	1,4	10
Toluene	mg/kg	25	120	120	1 100
Ethylbenzene	mg/kg	26	57	60	540
Xylenes	mg/kg	45	91	95	890
<b>Aromatics</b>					
Naphthalene	mg/kg	28	28	33	290
Pyrene	mg/kg	5,3	920	1 900	15 000

Parameter	Units	SSV1	SSV2	SSV2	SSV2
		All Land-Uses Protective of the Water Resource	Informal Residential	Standard Residential	Commercial/ Industrial
Benzo(a)pyrene	mg/kg	0,34	0,34	0,71	1,7
MTBE	mg/kg	0,0036	360	370	5 800
<b>Organics</b>					
Carbon Tetrachloride	mg/kg	0,25	0,27	0,26	4
Chlorobenzene	mg/kg	620	620	1 200	10 000
Chloroform	mg/kg	0,11	0,11	0,11	1,7
2 Chlorophenol	mg/kg	140	150	320	2 600
1,2 Dichlorobenzene	mg/kg	89	2 700	5 800	47 000
1,4- Dichlorobenzene	mg/kg	26	1 100	1 200	19 000
1,2-Dichloroethane	mg/kg	0,23	0,23	0,24	3,7
1,1 Dichloroethene	mg/kg	10	10	10	150
1,2,3- Trimethylbenzene	mg/kg	0,28	53	55	860
1,2 Dichloroethene	mg/kg	0,4	620	1,200	10,000
Trichlorobenzenes (total)	mg/kg	0,069	310	650	5 300
Nitrobenzene	mg/kg	2,8	2,8	2,9	45
1,1,2,2 Tetrachloroethane	mg/kg	0,32	0,32	0,34	5
2,4,6- Trichlorophenol	mg/kg	4	210	320	1 800
Vinyl Chloride	mg/kg	0,0037	0,10	0,11	1,5
PCBs	mg/kg	0,61	1,7	3,6	11
Cyanide	mg/kg	14	620	1 200	10 000

**Table 2: Soil Screening Values for Anions**

Anions	Soil Screening Level (mg/kg)
Chlorides	12 000
Fluorides	30
Nitrates-nitrite	120
Sulphates	4 000

## 6. Transitional Arrangements

- (1) Any person who is remediating contaminated land in compliance with a directive or compliance notice issued in terms of any legislation applicable to land remediation before coming into effect of these norms and standards, must comply with the conditions set out in the directive or compliance notice.
- (2) Any person who is remediating contaminated land in terms of a waste management licence issued in terms of the National Environmental Management: Waste Act, 2008 (Act No. 59 of 2008), before coming into effect of these norms and standards, must comply with the conditions set out in the waste management licence.

## 7. Short Title

These norms and standards are called the National Norms and Standards for the Remediation of Contaminated Land and Soil Quality in the Republic of South Africa.

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