

Guidelines to Assess the Hazardous Level of Soil Contaminants

1. Object

- The purpose of these guidelines is to prescribe concrete matters regarding the preparation and the submission of the assessment plan, assessment method, preparation method of the assessment report, announcement and disclosure of the assessment report, submission method of resident opinions, verification of the assessment, and post management of target area for the assessment of hazardous level in executing the assessment of hazardous level of soil contamination (the "Assessment of Hazardous Level") in accordance with provisions of Article 15-5 of Soil Environment Conservation Act (the "Act").

2. Scope of Application

- These guidelines will be applied to assess the hazardous level in accordance with the Article 15-2(2) of the Act.
- Unless otherwise prescribed in the Act, assessing the hazardous level shall be executed in accordance with these guidelines.

3. Definition

- The term "exposure" means the contact between a contaminant and a receptor.
- The term "exposure path" means the contact method, such as intake, inhale, skin contact, etc., between a toxic substance and a receptor
- The term "exposure concentration" means the concentration in which human body is exposed to a contaminant that exists in soil, underground water, soil air, etc.
- The term "exposure scenario" means exposure period and exposure frequency by exposure path and receptor.
- The term "exposure algorithm" means a formula to calculate the exposure in accordance with the exposure scenario.
- The term "exposure factor" means an index that quantifies the behaviors and characteristics of people that have effects on the exposure of contaminants.
- The term "unit hazard coefficient" means carcinogenesis risk per contaminant

concentration unit, which reliable domestic institutions provide.

- The term "toxicity assessment" means a process to determine the relation of a receptor response based on its capacity.
- The term "carcinogenesis coefficient" means the carcinogenesis risk per unit capacity of contaminant, which reliable domestic institutions provide.
- The term "site concept model" means field data and assessment schematic diagrams regarding the movement and the exposure path of contaminants within a site.
- The term "receptor" means components of a human body or an ecosystem, which will be affected by contaminants.
- The term "soil contamination monitoring" means observation through field study, survey, examination, sampling, and analysis of temporal and spatial changes of soil contaminants.
- The term "capacity" means a total amount of substances that are consumed, inhaled, or absorbed by organisms.
- The term "risk" means probability to be negatively influenced because of the exposure to contaminants.
- The term "risk assessment" means a scientific process to assess risks quantitatively.

4. Subject Area of Assessment

- In cases where the situation falls under any of the following subparagraphs and in an area where the Minister of Environment implements soil purification after detailed soil survey to prevent diffusion of soil contamination in accordance with Article 6-3 of the Act:
 - In cases where soil contamination, exceeding worrisome level, is caused by a state property prescribed in Article 2(1) of the State Property Act, the soil must be purified, and the state is considered a cause of contamination under Article 10-4 of Act.
 - In cases where soil must be purified in accordance with provision of Article 15(3) of the Act and the mayor/do governor or the head of Si/Gun/Gu demands for urgent soil purification.
 - In cases where a project to improve soil contamination is initiated in accordance with Article 19(3) of the Act, and the special self-governing do governor or the head of Si/Gun/Gu demands for urgent soil purification
- In cases where the cause of contamination is unknown or it is acknowledged that it is difficult to purify the contaminated soil, and the head of Si/Gun/Gu intends to purify the contained soil in accordance with proviso of Article 15(3) of the Act
- In cases where the special self-governing do governor or the head of Si/Gun/Gu initiates a project to improve contaminated soil in accordance with Article 19(3) of the Act in that

the cause of contamination does not exist or it is acknowledged that it is difficult to initiate a project to improve the contaminated soil.

- In cases where the soil is contaminated by natural causes, and the contaminated soil is purified in accordance with Article 11-2 of Enforcement Decree (excluding cases in which contaminated the soil is purified by taking out contaminated soil in accordance with the provision of Article 15-3(3) of the Act).
- In cases where the presidential decree prescribes that the risk must be assessed.

5. Soil Contaminants to be Assessed

- The contaminants that are subject to the assessment of hazardous level in soil contamination must be limited to the contaminant that falls under any of the following subparagraphs in accordance with provisions of Article 19-3(1) of the Enforcement Rules of Soil Environment Conservation Act
 - Oil: benzene, ethylbenzene, toluene, and xylene
 - Heavy metal: cadmium, copper, arsenic, mercury, lead, hexavalent chrome, zinc, and nickel
 - Others: fluorine
 - Other substances that the Minister of Environment announced to inflict harm to human body and environment.

6. Agency to Execute the Assessment of Hazardous Level

- The minister of the Ministry of Environment, the mayor/do governor or the head of Si/Gun/Gu, and the cause of contamination who intends to assess the hazardous level shall cause an assessment agency of hazardous level to execute the assessment of hazardous level in accordance with Article 23-2(1)4 of the Act.
- A selected assessment agency of hazardous level shall execute the assessment of hazardous level in accordance with these guidelines

7. Preparation and Submission of the Assessment Plan for the Hazardous Level

- The mayor/do governor, head of Si/Gun/Gu, or the cause of contamination who intends to assess a hazardous level in accordance with Article 15-5(1) of the Act shall prepare an assessment plan of hazardous level of soil contaminant according to [Attached Table 2] with consideration for characteristics of area subject to assessment of hazardous level (the "Subject Area") and submit the assessment plan to the Minister of Environment.

- The minister of the Ministry of Environment may take the opinion of the Verification Committee for Assessment of Hazardous Level in cases where it is necessary to review the assessment plan of hazardous level
- The minister of the Ministry of Environment shall notify the review results of assessment plan of hazardous level to the mayor/do governor, head of Si/Gun/Gu, or the cause of contamination.
- Unless there is a special reason, the minister of the Ministry of Environment, the mayor/do governor, head of Si/Gun/Gu, or the cause of contamination shall execute the assessment of hazardous level in accordance with the assessment plan of hazardous level.

Source: Ministry of Environment (www.me.go.kr)

