

The Italian law 3 April 2006 n.152 decree the main regulations about environmental safety:

This law is called “**Testo unico ambientale**” and it decrees in the annex 3 of the chapter V, the general parameters for the selection and implementation of the environmental recovery and restoration, for the safety measures (emergency, operational or permanent), and for the identification of the best intervention techniques with an acceptable cost.

Recovery and safety measures must be done according to some general technical criteria, such as:

- a. To prefer the recovery techniques that permanently and significantly reduce the concentration in different environments, the toxic effects and the pollutants mobility;
- b. To prefer the recovery techniques that can process and reuse the soil on site, process in-situ and on-site the contaminated soil, reducing the risks arising from the contaminated soil transport and landfilling;
- c. To prefer the recovery techniques/permanent safety measures that block the pollutants as stable chemical compounds (i.e. stable crystalline phases for heavy metals);
- d. To prefer the recovery techniques that allow the in-site treatment and reuse of the miscellaneous materials used in site as filling materials;**
- e. To consider the reuse of soil and heterogeneous materials off-site treated in the main site and in other ones with suitable environmental and health standards;
- f. To prefer in the environmental recovery interventions the use of organic materials of appropriate quality derived from urban waste recovery activities;
- g. To avoid any additional risk to the current pollution of air, groundwater and surface water, soil and subsoil, as well as any problems arising from noise and odours;
- h. To avoid sanitary risks for the population during the interventions;
- i. To adapt the environmental recovery to the intended use and to the morphological, vegetation and landscape characteristics of the area;
- j. To prefer the safety measures allowing the in-situ treatment and industrial reuse of soil, materials and water ground-extracted, to reduce the volume of waste and its harmfulness;**
- k. To adapt the security measures to the specific features of the site and its affected environment;
- l. To avoid any deterioration of the environment and landscape due to the works to be done.

Among the recovery interventions, the emergency ones are categorized as those that take place: in the event of accidental release or sudden verification of a contamination or contamination danger.

Emergency measures are particularly important because they represent the main threat to the environmental safety. The main types of measures for the emergency safety measures are as follow:

- Removal of waste piled up on the surface, tanks emptying, spilled hazardous substances collecting;
- Pumping floating pollutant liquids, dissolved or deposited in the surface or underground water;
- Installation of enclosures, warning signs and other safety measures - Installation of recovery and control draining trenches - Dykes construction or stabilization;
- Coverage or temporary waterproofing of contaminated soils and muds;
- Removal or emptying of abandoned bins or containers, containing potentially hazardous materials or substances.