

# Bioremediation principles

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**What are the basic principles of bioremediation?** bioremediation can promote the degradation of organic pollutants by adding special microbial reagents, nutrients (N, P, etc.) and soil amendments to the soil without changing the location of contaminated soil [2].

**What are the principles of biodegradation?** The biodegradation process is divided into two steps: (i) reduction of carbon bonds of the polymer chain due to moisture or heat, and the presence of microorganisms, and (ii) when microorganisms like fungi, bacteria or algae find shorter chains as an energy resource (Zeren et al., 2022).

**What are the principles of bioremediation SlideShare?** Bioremediation uses microorganisms to break down contaminants in soil and water. There are three main types: biostimulation adds nutrients to encourage microbial growth; bioaugmentation adds microbes that degrade specific contaminants; and intrinsic bioremediation relies on naturally occurring microbes.

**What is the theory of bioremediation?** Bioremediation broadly refers to any process wherein a biological system (typically bacteria, microalgae, fungi in mycoremediation, and plants in phytoremediation), living or dead, is employed for removing environmental pollutants from air, water, soil, flue gasses, industrial effluents etc., in natural or artificial ...

**What is the basic mechanism of bioremediation?** Bioremediation is a branch of biotechnology that employs the use of living organisms such as microbes and bacteria to decontaminate affected areas. It's used in the removal of contaminants, pollutants, and toxins from soil, water, and other environments.

**What is the fundamental of bioremediation?** Bioremediation is the use of microorganisms for the degradation of hazardous chemicals in soil, sediments, water, or other contaminated materials. Often the microorganisms metabolize the chemicals to produce carbon dioxide or methane, water and biomass.

**What is the ISO method for biodegradation?** This method is similar to other Compost methods; ISO 17556 is a minimum 90 day aerobic biodegradation test. Instead of measuring Theoretical Carbon Dioxide (ThCO<sub>2</sub>), ISO 17556 determines ultimate aerobic biodegradability in soil by measuring the oxygen demand or the amount of carbon dioxide evolved.

**What is principle 10 design for degradation?** Principle 10, however, guides the design of products that degrade after their commercial function in order to reduce risk or the probability of harm occurring. Risk is a function of both a molecule's inherent hazard AND exposure – contact between a chemical and a species.

**What are the fundamentals of biodegradation process?** Biodegradation is carried out by degraders, which are microorganisms (fungi, bacteria, and protozoa) that proliferate on decomposing organic matter, which is formed by ecosystems. This is a critical environmental mechanism that minimizes pollution caused by organic wastes (Razza and Innocenti, 2012).

**What are bioremediation strategies?** Bioremediation strategies are plans outlining how to carry out the fieldwork. Different technique applications depend on the site's saturation degree and what type of contaminants need removal. Techniques also depend on site conditions such as soil composition, compaction, groundwater tables and runoff characteristics.

**What are the components of bioremediation?** Bioremediation is different as it uses no toxic chemicals. Microorganisms like Bacteria and Fungi are the main role player when it comes to executing the process of Bioremediation. Bacteria are the most crucial microbes in this process as they break down the waste into nutrients and organic matter.

**What are the criteria of bioremediation?** Bioremediation could be done ex-situ or in situ, depending on criteria such as cost, site conditions, and the kind and quantity

of contaminants. Ex-situ procedures appear to be more expensive than in situ techniques in general, owing to the added expense associated with excavation.

**What are the three types of bioremediation?** Some of the most common types of bioremediation are microbial bioremediation, phytoremediation, and mycoremediation.

**What is the main goal of bioremediation?** What is the main aim of bioremediation? The goal of bioremediation is to reduce or remove toxins from an environment that were introduced by contaminants from human activity, like industry, or farming. Bioremediation aims to clean up polluted sites in an environmentally friendly and affordable way.

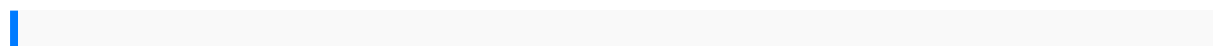
**What is the difference between biodegradation and bioremediation?** Hence, we can say that Biodegradation is the natural process of decomposition whereas in Bioremediation, organisms are introduced to the contaminated site or enhanced the natural microorganisms by providing suitable growth requirements.

**What are the basic principles of environmental cleaning?** The general principles of environmental cleaning include using appropriate disinfectants, establishing cleaning tasks and frequency, providing education and training, and monitoring compliance.

**What are the principles of sustainable remediation?**

**What are the principles of waste control?** The first and vital principle of waste management refers to the 3 R's, Reuse, Recycle, Reduce. The waste hierarchy is represented in the form of a pyramid because the basic premise is the promotion of integrated methods to prevent waste generation.

**What is the principle of bioaugmentation?** Biological augmentation is the addition of archaea or bacterial cultures required to speed up the rate of degradation of a contaminant. Organisms that originate from contaminated areas may already be able to break down waste, but perhaps inefficiently and slowly.



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