



Characteristics of Solid Waste in Vermiculture and Microorganism Pyrolysis

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DESCRIPTION

Solid waste management prevents or eliminates negative environmental and human health effects. In order to efficiently manage garbage for a municipality, a variety of processes are required. The amount of garbage produced varies mostly owing to diverse lifestyles, which is directly proportionate to the urban population's socioeconomic status. Many solid wastes are liquids, semi-solids, or gaseous wastes. The phrase "abandoned" refers to something that has been discarded. If a material is disposed of, burned, cremated, or sham recycled, it is considered abandoned. Some materials are always regarded solid wastes because they pose such a risk to human health and the environment; these materials are inherently waste-like. Certain dioxin-containing wastes are examples of materials that are intrinsically waste-like. All ammunition goods and components produced for or used by the United States are classified as military munitions. For national defense and security, the Department of Defense (DOD) or US Armed Services is responsible. When abandoned munitions are disposed of, burned, cremated, or processed prior to disposal; rendered no recyclable or no usable *via* deterioration; or declared a waste by an authorized military officer, they become solid wastes. If collected for storage, recycling, treatment, or disposal, weapons that have been fired or detonated may be considered solid waste. According to the Ministry of Environment and Forests (MOEF), it includes solid or semi-solid commercial and residential trash generated in municipal or notified regions, excluding industrial hazardous wastes but containing treated bio-medical wastes.

ISW (Industrial Solid Waste)

Hazardous waste is defined as waste that contains harmful elements, is caustic, extremely combustible, or reacts when exposed to specific things, such as gases. Sharps, dirty waste, disposables, anatomical waste, cultures, abandoned pharmaceuticals, chemical wastes, and other infectious waste are commonly found in the form of disposable syringes, swabs, bandages, body fluids, human excreta, and other biomedical waste. If not managed in a scientific and discriminate manner, these can pose a major hazard to human health. The management

management of solid waste entails.

Method that is centralized

This approach entails collecting municipal waste from all across the local area and dumping it outside of the city/nagar panchayat limits *via* landfilling. This procedure examines the collection of solid trash from residents' homes by garbage pickers, who then turn the gathered rubbish on to the collection team, who then dispose of it in the landfill.

Thermal treatment

Incineration is the process of burning garbage in the presence of oxygen to produce carbon dioxide, water vapour, and ash. Its benefits include reduced trash volume, lower transportation costs, and lower greenhouse gas emissions. When waste is burned, however, toxins like mercury, lead, and dioxins are discharged into the atmosphere, posing a health risk.

Pyrolysis and gasification

This approach involves heat processing in the absence of oxygen or with a little amount of oxygen. Biological therapy options include: Microorganisms are used to breakdown the biodegradable components of trash. The two sorts of processes are as follows: Windrow composting, aerated static pile composting, in-vessel composting, vermiculture, and other aerobic composting methods require the presence of oxygen. Open dumping and landfills: Sanitary landfills are the controlled disposal of trash on land in such a way that waste-to-environment interaction is greatly avoided and waste is concentrated in a well-defined region. Dumps are open sites where garbage is dumped and exposed to the elements, stray animals, and birds. Because there is no monitoring and no leachate collecting mechanism in place, both land and water resources are contaminated. Up cycling is the process of improving a commodity through various recycling techniques. Making roads out of cheap plastic is an example of up cycling. Down cycling is the process of reducing the value of a commodity through various recycling procedures.

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