

S6 Landfill

Municipal solid waste (MSW), commonly known as trash or garbage in the United States and rubbish in Britain, is a waste type consisting of everyday items that are discarded by the public.

What are the five categories of MSW?

1. Biodegradable waste – food and kitchen waste
2. Recyclable materials – paper, glass, plastic bottles, other plastics, metal and tin cans
3. Inert waste (construction/demolition waste) – materials that may not necessarily be toxic to all species but can be harmful to humans
4. Composite waste – items composed of more than one material, such as clothes and children's toys
5. Household hazardous waste – medicines, paint, batteries, light bulbs etc., cannot be recycled or disposed of with other waste materials.

Municipal Waste Disposal and Landfills

Today, landfills are designed to protect the environment and prevent pollutants from entering the soil and possibly polluting ground water in one of two ways:

- Sanitary landfills use a clay liner to block pollutants from leaving the landfill.
- Municipal Solid Waste landfills use synthetic liners (plastic) to separate the waste from the land below it.

When waste is put into these landfills, it is compacted until the area is full and then buried. Doing this prevents the trash from coming into contact with the environment. It also keeps it dry so it will not quickly decompose. About 55% of the waste generated in the United States goes to landfills. In the UK, this number is around 90%.

Waste combustors are also used to dispose waste. MSW is burnt at extremely high temperatures to reduce waste volume, control bacteria, and sometimes generate electricity. There is a risk of air pollution with this method, but

governments have regulations to reduce pollution. Scrubbers (devices that spray liquids on smoke to reduce pollution) and filters (screens to remove ash and pollutant particles) are commonly used today.

Finally, the third type of municipal waste disposal currently in use is transfer stations. MSW is taken to facilities where the waste is sorted to remove recyclables and hazardous materials. The remaining waste is then reloaded onto trucks and taken to landfills while the waste that can be recycled for example, is sent to recycling centers.

How can we reduce MSW?

Composting is one way of reducing MSW. Combining organic waste with microorganisms like bacteria and fungi can break down the waste and create compost. This is usually done on an individual level. This can then be recycled and used as a natural and chemical free fertiliser for personal plants.

The Future of MSW

To further reduce waste, some cities are currently promoting policies of zero waste. Zero waste itself means reduced waste generation and the 100% diversion of the remainder of waste from landfills to productive uses via materials reuse, recycling, repair and composting. Zero waste products should also have minimal negative environmental impacts over their lifecycles.