



Characterisation of Special Handling Waste and Reuse of Nuclear Reactors

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DESCRIPTION

Special handling waste is a type of waste that requires special delivery and disposal supervised by a government authority. It may include confiscated drugs, police records, or other materials that pose a risk to human health or the environment. Its disposal methods depends upon the type and characteristics of the waste, as well as the legal requirements of the country or region where it is generated. Some common steps in disposing of special handling waste are:

- Evaluating and classifying the waste according to its hazard level and regulatory status.
- Storing the waste in appropriate containers and facilities that prevent leaks, spills, or exposure to the environment.
- Labeling the waste with clear and accurate information about its contents and date of generation.
- Transporting the waste to a licensed disposal facility that can handle its specific characteristics and risks.
- Treating the waste using methods such as incineration, landfilling, recycling, or composting, depending on its suitability and environmental impact.

Plastic is not a special waste by definition, but it can pose a threat to human health and the environment if not handled properly. Plastic is a synthetic material that is widely used in various industries and products, such as packaging, machinery, transportation, etc. It can be generated when plastic products are discarded or become unusable. It is recycled or disposed of in different ways, depending on its type and quality. Some common methods of plastic waste disposal are incineration, landfilling, composting, and pyrolysis. However, plastic waste can also cause problems such as pollution, greenhouse gas emissions, wildlife entanglement, ingestion, or toxicity. Therefore, plastic waste should be reduced, reused, or recycled whenever possible to minimize its environmental impact.

Atomic waste and special waste are different types of hazardous waste that require special handling and disposal. Atomic waste, also known as radioactive waste, is a type of waste that contains radioactive material. Radioactive waste is a result of many

activities, such as nuclear medicine, nuclear research, nuclear power generation, nuclear weapons decommissioning, and rare-earth mining. Radioactive waste can pose a risk to human health and the environment due to its potential to emit harmful radiation. Radioactive waste is usually classified into low-level, intermediate-level, high-level, and transuranic waste based on its radioactivity and heat generation. Radioactive waste is typically treated and conditioned by encapsulating or solidifying it in cement, bitumen, glass, or metal containers. It is then disposed of in specially designed facilities such as near-surface landfills or deep geological repositories.

Special waste is a type of waste that requires special delivery and disposal supervised by a government authority. It may include confiscated drugs, police records, or other materials that pose a risk to human health or the environment. Special waste is not necessarily radioactive, but it may have other hazardous characteristics such as toxicity, reactivity, corrosivity, or infectivity. Special waste is usually classified into different categories depending on its source and composition. Special waste is typically stored in appropriate containers and facilities that prevent leaks, spills, or exposure to the environment. It is then transported to a licensed disposal facility that can handle its specific characteristics and risks. Some countries or regions may require special authorization or permits for disposing of special waste. Atomic waste that contains fissile or fertile materials, such as used nuclear fuel, can be reprocessed to recover and reuse them in nuclear reactors to generate more electricity.

CONCLUSION

This reduces the volume and radioactivity of the final waste, as well as the demand for natural uranium. Several countries, which have been adopted by this method 'reprocess to reuse' of spent fuel in 'closed fuel cycle' based on innovative fuel re-fabrication and 'fast' reactors. It contains valuable metals, such as copper, steel, or zirconium, can be recycled to recover and reuse them in various industries. This reduces the amount of waste that requires disposal, as well as the demand for natural

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resources. It contains plastic materials, such as bottles, bags, or containers, can be recycled to produce new plastic products or raw materials. This reduces the amount of waste that requires disposal, as well as the environmental impact of plastic

pollution. Several countries, such as China, India, and Brazil, have developed technologies and facilities to recycle plastic waste from various sources.