DISPOSING OF WASTES pdf

1: Disposing of Hazardous Waste - Green Plus

To dispose of hazardous waste, start by keeping the waste separate from your regular trash. Then, check online to see if there is a community hazardous-waste pickup system you can use to have the waste picked up from your home.

Dispose of Waste Properly HUMAN WASTE Proper disposal of human waste is important to avoid pollution of water sources, avoid the negative implications of someone else finding it, minimize the possibility of spreading disease, and maximize the rate of decomposition. In most locations, burying human feces in the correct manner is the most effective method to meet these criteria. Solid human waste must be packed out from some places, such as narrow river canyons. Land management agencies can advise you of specific rules for the area you plan to visit. Contrary to popular opinion, research indicates that burial of feces actually slows decomposition at least in the Rocky Mountains. Pathogens have been discovered to survive for a year or more when buried. However, in light of the other problems associated with feces, it is still generally best to bury it. The slow decomposition rate causes the need to choose the correct location, far from water, campsites, and other frequently used places. Locate catholes at least feet about 70 adult steps from water, trails and camp. Select an inconspicuous site where other people will be unlikely to walk or camp. With a small garden trowel, dig a hole inches deep and inches in diameter. The cathole should be covered and disguised with natural materials when finished. If camping in the area for more than one night, or if camping with a large group, cathole sites should be widely dispersed. Perhaps the most widely accepted method of backcountry human waste disposal is the cathole. Select a cathole site far from water sources, feet approximately 70 adult paces is the recommended range. Select an inconspicuous site untraveled by people. Examples of cathole sites include thick undergrowth, near downed timber, or on gentle hillsides. Try to find a site with deep organic soil. This organic matter contains organisms which will help decompose the feces. Organic soil is usually dark and rich in color. Refer to the jars used to demonstrate decomposition. The desert does not have as much organic soil as a forested area. See number 2 under Digging a Cathole below. If possible, locate your cathole where it will receive maximum sunlight. The heat from the sun will aid decomposition. Choose an elevated site where water would not normally go during runoff or rain storms. The idea here is to keep the feces out of water. Over time, the decomposing feces will percolate into the soil before reaching water sources. Dig the hole inches deep about the length of the trowel blade and inches in diameter. In a hot desert, human waste does not biodegrade easily because there is littleorganicsoil to help break it down. In the desert, the cathole should be only inches deep. This will allow the heat and sun to hasten the decay process. When finished, the cathole should be filled with the original dirt and disguised with native materials. Locate catholes at least feet about 70 adult steps from water, trails, and camp. Avoid areas where water visibly flows, such as sandy washes, even if they are dry at the moment. Select a site that will maximize exposure to the sun in order to aid decomposition. South-facing slopes and ridge tops will have more exposure to sun and heat than other areas. LATRINES Though catholes are recommended for most situations, there are times when latrines may be more applicable, such as when camping with young children or if staying in one camp for longer than a few nights. Use similar criteria for selecting a latrine location as those used to locate a cathole. Since this higher concentration of feces will decompose very slowly, location is especially important. A good way to speed decomposition and diminish odors is to toss in a handful of soil after each use. Ask your land manager about latrine-building techniques. Toilet paper must be disposed of properly! It should either be thoroughly buried in a cathole or placed in plastic bags and packed out. Natural toilet paper has been used by many campers for years. When done correctly, this method is as sanitary as regular toilet paper, but without the impact problems. Popular types of natural toilet paper include stones, vegetation and snow. Obviously, some experimentation is necessary to make this practice work for you, but it is worth a try! Burning toilet paper in a cathole is not generally recommended. Toilet Paper in Arid Lands: Placing toilet paper in plastic bags and packing it out as trash is the best way to Leave No Trace in a desert environment. Toilet paper should not be burned. This practice can result in wild fires. It will take a very hot, intense fire to burn them completely. In some instances urine may draw wildlife which are attracted to the salts. They can defoliate plants and dig up soil. Urinating on

rocks, pine needles, and gravel is less likely to attract wildlife. Diluting urine with water from a water bottle can help minimize negative effects. Special Considerations for River Canyons: River canyons often present unique Leave No Trace problems. The most common practice is to urinate directly in the river and pack out feces in sealed boxes for later disposal. Check with your land manager for details about specific areas.

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2: Various Waste Disposal Problems and Some Fantastic Solutions - Conserve Energy Future

Waste management (or waste disposal) are the activities and actions required to manage waste from its inception to its final disposal. This includes the collection, transport, treatment and disposal of waste, together with monitoring and regulation of the waste management process.

Americans alone are responsible for producing a hopping million tons of waste a year. This number is far more than any other nation in the world. Waste management is that solution, a rather complex issue that encompasses more than 20 different industries. Waste management is collection, transportation, and disposal of garbage , sewage and other waste products. It is about how garbage can be used as a valuable resource. Waste management is something that each and every household and business owner in the world needs. Waste management disposes of the products and substances that you have use in a safe and efficient manner. This includes amongst other things, collection, transport, treatment and disposal of waste together with monitoring and regulation. It also encompasses the legal and regulatory framework that relates to waste management encompassing guidance on recycling etc. Those groups include source reduction and reuse, animal feeding, recycling, composting, fermentation, landfills, incineration and land application. Various Methods of Waste Disposal Although there are many methods available to dispose off waste. This process of waste disposal focuses attention on burying the waste in the land. Landfills are commonly found in developing countries. There is a process used that eliminates the odors and dangers of waste before it is placed into the ground. While it is true this is the most popular form of waste disposal , it is certainly far from the only procedure and one that may also bring with it an assortment of space. This method is becoming less these days although, thanks to the lack of space available and the strong presence of methane and other landfill gases, both of which can cause numerous contamination problems. Many areas are reconsidering the use of landfills. Incineration is something that is very in countries where landfill space is no longer available, which includes Japan. Recovery and Recycling Resource recovery is the process of taking useful discarded items for a specific next use. Recycling is the process of converting waste products into new products to prevent energy usage and consumption of fresh raw materials. The idea behind recycling is to reduce energy usage, reduce volume of landfills, reduce air and water pollution , reduce greenhouse gas emissions and preserve natural resources for future use. Plasma gasification Plasma gasification is another form of waste management. Plasma is a primarily an electrically charged or a highly ionized gas. Thanks to this process, destruction of waste and dangerous materials is found. This form of waste disposal provides renewable energy and an assortment of other fantastic benefits. Composting Composting is a easy and natural bio-degradation process that takes organic wastes i. Composting, normally used for organic farming , occurs by allowing organic materials to sit in one place for months until microbes decompose it. Composting is one of the best method of waste disposal as it can turn unsafe organic products into safe compost. On the other side, it is slow process and takes lot of space. It can also help to reduce carbon emissions by offsetting the need for energy from fossil sources. Waste-to-Energy, also widely recognized by its acronym WtE is the generation of energy in the form of heat or electricity from waste. Waste reduction can be done through recycling old materials like jar, bags, repairing broken items instead of buying new one, avoiding use of disposable products like plastic bags, reusing second hand items, and buying items that uses less designing. Recycling and composting are a couple of the best methods of waste management. Composting is so far only possible on a small scale, either by private individuals or in areas where waste can be mixed with farming soil or used for landscaping purposes. Recycling is widely used around the world, with plastic, paper and metal leading the list of the most recyclable items. Most material recycled is reused for its original purpose. The Bottom Line There are certain waste types that are considered as hazardous and cannot be disposed of without special handling which will prevent contamination from occurring. Biomedical waste is one example of such. This is found in health care facilities and similar institutions. The special waste disposal system for this unit in place to dispose of this type of waste. As you can see there are plenty of important things that you should know about waste management and disposal in order to ensure that you are safe, as well as that you are keeping the environment safe. It is your

choices as to how you will dispose of waste, however it is always in your best interest to take a look at all of the options that you have available before making the choice.

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3: Waste Disposal | Environmental Health and Safety | University of Pittsburgh

Hazardous waste that is improperly managed poses a serious threat to human health and the environment. The Resource Conservation and Recovery Act (RCRA), passed in , was established to set up a framework for the proper management of hazardous waste.

Radioactive Waste Management Updated April Nuclear power is the only large-scale energy-producing technology that takes full responsibility for all its waste and fully costs this into the product. The amount of waste generated by nuclear power is very small relative to other thermal electricity generation technologies. Used nuclear fuel may be treated as a resource or simply as waste. Nuclear waste is neither particularly hazardous nor hard to manage relative to other toxic industrial waste. Safe methods for the final disposal of high-level radioactive waste are technically proven; the international consensus is that geological disposal is the best option. Like all industries, the generation of electricity produces waste. Whatever fuel is used, the waste produced in generating electricity must be managed in ways that safeguard human health and minimise the impact on the environment. For radioactive waste, this means isolating or diluting it such that the rate or concentration of any radionuclides returned to the biosphere is harmless. To achieve this, practically all radioactive waste is contained and managed, with some clearly needing deep and permanent burial. From nuclear power generation, unlike all other forms of thermal electricity generation, all waste is regulated â€" none is allowed to cause pollution. Nuclear power is characterised by the very large amount of energy produced from a very small amount of fuel, and the amount of waste produced during this process is also relatively small. However, much of the waste produced is radioactive and therefore must be carefully managed as hazardous material. All parts of the nuclear fuel cycle produce some radioactive waste and the cost of managing and disposing of this is part of the electricity cost i. All toxic waste needs be dealt with safely â€" not just radioactive waste â€" and in countries with nuclear power, radioactive waste comprises a very small proportion of total industrial hazardous waste generated. Radioactive waste is not unique to the nuclear fuel cycle. Radioactive materials are used extensively in medicine, agriculture, research, manufacturing, non-destructive testing, and minerals exploration. Unlike other hazardous industrial materials, however, the level of hazard of all radioactive waste â€" its radioactivity â€" diminishes with time. Types of radioactive waste Radioactive waste includes any material that is either intrinsically radioactive, or has been contaminated by radioactivity, and that is deemed to have no further use. Government policy dictates whether certain materials â€" such as used nuclear fuel and plutonium â€" are categorised as waste. Every radionuclide has a half-life â€" the time taken for half of its atoms to decay, and thus for it to lose half of its radioactivity. Eventually all radioactive waste decays into non-radioactive elements. The more radioactive an isotope is, the faster it decays. LLW does not require shielding during handling and transport, and is suitable for disposal in near surface facilities. LLW is generated from hospitals and industry, as well as the nuclear fuel cycle. To reduce its volume, LLW is often compacted or incinerated before disposal. Due to its higher levels of radioactivity, ILW requires some shielding. ILW typically comprises resins, chemical sludges, and metal fuel cladding, as well as contaminated materials from reactor decommissioning. Smaller items and any non-solids may be solidified in concrete or bitumen for disposal. As a result, HLW requires cooling and shielding. HLW contains the fission products and transuranic elements generated in the reactor core. There are two distinct kinds of HLW: Used fuel that has been designated as waste. HLW has both long-lived and short-lived components, depending on the length of time it will take for the radioactivity of particular radionuclides to decrease to levels that are considered non-hazardous for people and the surrounding environment. If generally short-lived fission products can be separated from long-lived actinides, this distinction becomes important in management and disposal of HLW. HLW is the focus of significant attention regarding nuclear power, and is managed accordingly. The waste is therefore disposed of with domestic refuse, although countries such as France are currently developing specifically designed VLLW disposal facilities. Where and when is waste produced? Radioactive waste is produced at all stages of the nuclear fuel cycle â€" the process of producing electricity from nuclear materials. The fuel cycle involves the mining and milling of uranium ore, its

processing and fabrication into nuclear fuel, its use in the reactor, its reprocessing if conducted , the treatment of the used fuel taken from the reactor, and finally, disposal of the waste. Where the used fuel is reprocessed, the amount of waste is reduced materially. Mining through to fuel fabrication Traditional uranium mining generates fine sandy tailings, which contain virtually all the naturally occurring radioactive elements found in uranium ore. The tailings are collected in engineered dams and finally covered with a layer of clay and rock to inhibit the leakage of radon gas, and to ensure long-term stability. In the short term, the tailings material is often covered with water. Strictly speaking these are not classified as radioactive waste. It is refined then converted to uranium hexafluoride UF6 gas. As a gas, it undergoes enrichment to increase the U content from 0. It is then turned into a hard ceramic oxide UO2 for assembly as reactor fuel elements. Some DU is used in applications where its extremely high density makes it valuable, such as for the keels of yachts and military projectiles. Electricity generation In terms of radioactivity, the major source arising from the use of nuclear reactors to generate electricity comes from the material classified as HLW. Highly radioactive fission products and transuranic elements are produced from uranium and plutonium during reactor operations, and are contained within the used fuel. Where countries have adopted a closed cycle and reprocess used fuel, the fission products and minor actinides are separated from uranium and plutonium and treated as HLW see below. In countries where used fuel is not reprocessed, the used fuel itself is considered a waste and therefore classified as HLW. Reprocessing of used fuel Any used fuel will still contain some of the original U as well as various plutonium isotopes which have been formed inside the reactor core, and U Several European countries, as well as Russia, China, and Japan have policies to reprocess used nuclear fuel. Reprocessing allows for a significant amount of plutonium to be recovered from used fuel, which is then mixed with depleted uranium oxide in a MOX fabrication plant to make fresh fuel. Commercial reprocessing plants currently operate in France, the UK, and Russia. Another is being commissioned in Japan, and China plans to construct one too.

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4: Waste management - Wikipedia

HUMAN WASTE. Proper disposal of human waste is important to avoid pollution of water sources, avoid the negative implications of someone else finding it, minimize the possibility of spreading disease, and maximize the rate of decomposition.

These lists may be updated periodically by EPA. Testing is not necessarily required, and in most cases the laboratory worker should be able to provide sufficient information about the waste to allow the hazard classification to be assigned. If the waste is not a common chemical with known characteristics, enough information about it must be supplied to satisfy the regulatory requirements and to ensure that it can be handled and disposed of safely. The information needed to characterize a waste also depends on the method of ultimate disposal. See the discussion of disposal methods in sections 7. This step directly involves the laboratory workers who are familiar with the waste and its generation and is a most important part of ensuring that the disposal process proceeds safely and efficiently. It is often the time at which a decision can be made to recycle or reuse surplus materials rather than sending them for disposal. All of the costs and benefits of either decision should be evaluated here. Again, safety considerations must be of primary concern. Waste should be stored in clearly labeled containers in a designated location that does not interfere with normal laboratory operations. Ventilated storage may be appropriate. Federal regulations allow the indefinite accumulation of up to 55 gallons of hazardous waste or 1 quart of acutely hazardous waste at or near the point of generation. However, prudence dictates that the quantities accumulated should be consistent with good safety practices. Furthermore, satellite accumulation time must be consistent with the stability of the material. It is generally recommended that waste not be held for more than 1 year. Within 3 days of the time that the amount of waste exceeds the gallon or 1 quart limit, it must be managed under the storage and accumulation time limits required at a central accumulation area. See Chapter 9 , section 9. Often, different kinds of waste can be accumulated within a common container. Such commingled waste must be chemically compatible to ensure that heat generation, gas evolution, or another reaction does not occur. See the discussion of commingling in section 7. Packaging and labeling are a key part of this initial in-laboratory operation. Waste must be collected in dependable containers that are compatible with their contents. Glass containers have traditionally been the most resistant to chemical action, but they can break easily. Metal containers are sturdier than glass, but often are corroded by their contents. Various chemically resistant plastic containers are becoming preferable substitutes for containers of glass or metal. Safety cans, metal or plastic, should be considered for holding flammable solvents. It is advisable to use secondary containers, such as trays, in case of spills or leakage from the primary containers. Containers are required to remain closed except when their contents are being transferred. Containers of incompatible materials should be separated physically or otherwise stored in a protective manner. Although the identity need not be a complete listing of all chemical constituents, it should enable knowledgeable laboratory workers to evaluate the hazard. However, when compatible wastes are collected in a common container, it is advisable to keep a list of the components to aid in later disposal decisions. Labeling must be clear and permanent. Although federal regulations do not require posting the date when satellite accumulation begins, some states do require this. The institution may suggest that this information be recorded as part of its chemicals management plan. In addition to being the primary location where waste management occurs, it may also be the location where excess chemicals are held for possible redistribution. Along with the laboratory, the central accumulation area is often where hazard reduction of waste takes place through allowable on-site treatment processes. Prudent Practices in the Laboratory: Handling and Disposal of Chemicals. The National Academies Press. This is the process where compatible wastes from various sources are combined prior to disposal. Commingling is particularly suitable for waste solvents because disposal of liquid in a gallon drum is generally much less expensive than disposal of the same volume of liquid in small containers. Because mixing waste requires transfer of waste between containers, it is imperative that the identity of all materials be known and their compatibility be understood. Safety in carrying out the procedures, including the use of personal protective devices as well as engineering

controls such as fume hoods, must be of high priority. In some cases, the disposal method and ultimate fate of the waste may require that different wastes not be accumulated together. In such cases, segregation of halogenated and nonhalogenated solvents is economically favorable. Based on federal regulations, storage at a central accumulation area is normally limited to 90 days, although more time is allowed for small-quantity generators or other special situations or days. The count begins when the waste is brought to the central accumulation area from the laboratory or satellite accumulation area. It is important to know that a special permit is required for long-term storage, that is, storage beyond the limit of 90 days or or days, depending on the particular situation. Obtaining such a permit is usually too expensive and too time-consuming for most laboratory operations. Waste materials stored within a central accumulation area should be held in appropriate and clearly labeled containers, separated according to chemical compatibility as noted in the previous section. The label must include the accumulation start date and the words "Hazardous Waste. Training of employees in correct handling of the materials as well as contingency planning for emergencies is expected to be a part of the central accumulation area operations. Transportation of waste between laboratories satellite accumulation areas and the central accumulation area also requires specific attention to safety. Materials transported must be held within appropriate and clearly labeled containers. There must be provision for spill control in case of an accident during transportation and handling. For larger institutions, it is advisable to have some kind of internal tracking system to follow the movement of waste. If public roads are used during the transportation process, additional Department of Transportation DOT regulations may apply. Final preparations for off-site disposal usually occur at the central accumulation area. Decisions on disposal options are best made here, as the larger quantities of waste are gathered. Identification of unknown materials not carried out within the laboratory must be completed at this point because unidentified waste cannot be shipped to a disposal site. Lab Packs are containers, often gallon drums, in which small containers of waste are packed with an absorbent material. Lab Packs had been used as the principal method for disposing of laboratory waste within a landfill. However, recent landfill disposal restrictions severely limit landfill disposal of hazardous materials. Thus, the Lab Pack has become principally a shipping container. Typically, the Lab Pack is taken to a disposal facility, where it is either incinerated or unpacked and the contents redistributed for safe, efficient, and legal treatment and disposal. Because the central accumulation area is usually the last place where waste is dealt with before it leaves the facility, it is often the most suitable place for ensuring that all appropriate and required records have been generated. For regulatory purposes, the facility needs to keep records for on-site activities that include the quantities and identification of waste generated and shipped, documentation of analyses of unknown materials if required, manifests for waste shipping as well as verification of disposal, and any other information required to ensure compliance and safety from long-term liability. Records of costs, internal tracking, and so forth, can provide information on the success of the hazardous waste management program. From a chemical point of view, it is feasible to reduce the volume or the hazardous characteristics of many chemicals by reactions within the laboratory. In fact, it is becoming common practice to include such reactions as the final steps in an experimental sequence. Such procedures, as part of an academic or industrial experiment, usually involve small amounts of materials, which can be handled easily and safely by the laboratory worker. Chemical deactivation as part of the experimental procedure can have considerable economic advantage by eliminating the necessity to treat small amounts of surplus materials as hazardous waste. Furthermore, the handling and deactivation of potential waste by the laboratory worker benefit from the expertise and knowledge about the materials of the person who has generated them. The question of what is considered treatment under RCRA regulations has posed a dilemma for laboratory workers. RCRA regulations define treatment as "any method The regulatory procedures and costs to be a "permitted" treatment facility are beyond the resources and mission of most academic and industrial laboratories. Yet it is prudent to carry out small-scale "treatment" as a part of laboratory procedures. This fact has been recognized by state agencies and some regional EPA offices through "permit-by-rule," that is, by allowing categorical or blanket permitting of certain small-scale treatment methods. For example, elementary acid-base neutralization is usually allowed, as is treatment that is the last step of a chemical procedure. Most EPA regions also allow treatment in the waste collection container. It is important to note that treatment restrictions apply only to wastes that are addressed

by EPA regulations. A bill has been promoted in Congress to allow small-scale treatment by laboratory personnel. However, specific legislation has not been enacted at this time. The fact that regional EPA offices have interpreted such small-scale reactions differently further complicates decisions at the laboratory level. D below provides methods for small-scale treatment of common chemicals. The method of collection has an impact on, for example, how waste will be stored so as to most efficiently accomplish its transfer to the treatment, storage, and disposal facility TSDF. Waste generators often use several disposal options because each has its own advantages for specific wastes. Disposal in the sanitary sewer, though appropriate in some cases, is becoming an unacceptable option in many communities. At the same time the options for landfill disposal are also disappearing rapidly. Incineration is becoming the most common disposal method. However, the long-term outlook for this method may be limited by increasing environmental concerns as well as the difficulty in obtaining permits for commercial incineration facilities. Waste minimization is the management strategy of the future. See Chapter 4 , section 4. B , for step-by-step instructions on source reduction and Chapter 7 , section 7. C , for general information on minimizing hazardous waste. It promises to give the generator the best assurance of long-term safety from liability. It also leads to a minimum amount of residues that must be disposed of in landfills. However, at this time, incineration is still one of the more expensive disposal options. It is becoming increasingly difficult to obtain a permit to establish a commercial incinerator because of local opposition the "not in my backyard" syndrome and environmental concerns centering on questions regarding the effectiveness of the incineration process.

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5: Learn the Basics of Hazardous Waste | Hazardous Waste | US EPA

Industrialized nations are grappling with the problem of expeditious and safe waste disposal. Non-biodegradable and toxic wastes like radioactive remnants can potentially cause irreparable damage to the environment and human health if not strategically disposed of.

Hazardous waste is defined by waste that poses significant or potential threats to the public, health, or environment. To meet the requirements for hazardous waste, the material needs to display at least one or more of the following hazardous traits: Historically, hazardous wastes were regularly dumped into landfills. This unfavorable action caused the chemicals to seep into the ground and eventually enter our natural water systems. From there, our wild and marine life mammals became exposed to all sorts of chemicals which can in return cause issues for us. In this day and age of modern technology and electronics, the use of hazardous material is becoming even more prevalent. The only option we are stuck with is to make sure that we dispose of these materials as properly as possible to reduce the risk of harm we create on society. The use of Incineration by burning the material in high temperatures is a great way to destroy toxic waste. Incineration actually destroys and terminates most HHW. A benefit of society using this method is the fact that the flammable wastes can also be burned and used as energy sources. The method of Incineration releases toxic gases which can affect the environment, but current technology has developed more effective incinerator units that limit the amount of emissions released in the sky. Another smart method is to recycle. You ever see the cell phone recycling units in Staples or an Office store. Well, the point of that is to recycle or reclaim the battery and parts off the phone rather than just disposing them. Used oils can also be salvaged and recycled. Find out what hazardous waste collection facilities are in your area! Many times, communities will designate special days for collection. If you have diabetic syringes or prescription drugs, you should be very careful about how you dispose of them! Most pharmacies carry a mini disposal box where you can throw away used syringes. Prescription drugs should always be handed off to a drop-off location! They should never be thrown in the trash or flushed down the toilet or sink! The last, but not least way to dispose of hazardous waste is to share it! For instance, if you have extra oil or fertilizer lying around you can share it with a person who is need! By using these methods to dispose of hazardous waste, we can all enjoy a safer environment. Incineration Recycling Services provides all types of industry in the United States with reconditioned industrial packaging containers, as well as empty bulk container pickup services.

DISPOSING OF WASTES pdf

6: Storage and Disposal Options for Radioactive Waste - World Nuclear Association

Concerns about environmental protection, bans on landfill disposal of waste, and limited access to sewer disposal have encouraged the development of strategies to reduce hazardous waste from laboratories.

Be it used plastic bag, broken glass, obsolete cell phone, or used battery cells, they are all used products that require appropriate disposal to limit their harm to the environment. Waste disposal is therefore a systematic action for managing waste from its origin to its final disposal. Because waste disposal involves a myriad of processes such as collection, transportation, dumping, recycling, or sewage treatment among other waste product monitoring and regulation measures, there are lots of problems associated with waste disposal. Here are the common waste disposal problems and their solutions. Various Waste Disposal Problems Production of too much waste One of the major waste disposal problems is attributed to the generation of too much waste. America alone is responsible for the producing of about million tons of waste annually. This is about 2. According to the World Bank report, the average global municipal solid waste MSW generation per person on daily basis is about 1. It therefore means that every state and local authority suffer the problem of effective waste disposal due to the generation of too much waste. The problem is that the present era is driven by a throw-away consumerism with companies and producers striving to maximize profits by producing one-time use products without prioritizing on reuse, recycling or the use of environmentally friendly materials. Most of the waste is toxic The majority of the state and local authority legislations are generally lax on regulating the ever-expanding manufacturing industries. On a daily basis, these industries produce toxic products that end up getting thrown away after use. Most of the products contain hazardous and health-threatening chemicals. A report by the U. EPA indicates that more than 60, untested chemicals are present in the consumer products in our homes. There are even products known to contain toxic chemicals, such as Biphenyl-A BPA â€" often present in plastic toys, but they are still poorly regulated. Landfills are a problem as well Most landfills lack proper on-site waste management thereby contributing to additional threats to the environment. In the long-term, landfills leak and pollute ground water and other neighboring environmental habitats making waste management very difficult. They also give off potentially unsafe gases. Also, the laws and regulation guiding the operations of landfills are often lax at monitoring and regulating the different types of wastes namely medical waste , municipal waste, special waste or hazardous waste. With this kind of laxity of the laws in landfill waste management , the landfills toxicity and hazardous nature significantly increases to a point where the landfill waste problems often lasts for up to 30 years. Regulations are based on vested interests Since waste disposal and management has become a profit making venture, those who advocate for safe, quality and proper management of waste disposal are outmatched by industries in the business. Large enterprises in the waste disposal business dictate all aspects of the market from operating landfills, sewer systems and incinerators to recycling facilities. The corporations simply aim at making profits regardless of the waste reduction requirements or the resultant destructive environment impacts. As such, they collaborate with vested interest regulators thereby creating a big problem in the effective regulation of waste disposal, which has worsened the devotions to waste reduction and recycling programs. To make matters worse, even some state officials work together with such industry officials to expand landfills, increase waste tonnage, and develop new waste disposal or recycling or treatment facilities to augment profits. Reliance of dying technologies to reduce and recycle waste Waste disposal and management facilities as well as state resources have continued to rely on myopic and quickie solutions instead of developing effective recycling and waste reduction programs. Consequently, it has created continued reliance on the use of outdated technologies to deal with waste disposal. The problem is that most states are reluctant and less creative towards advancing novel technologies for reducing the toxicity and volume of waste or enhancing recycling , especially solid waste. As much as burning waste to produce energy is considered green because it does not involve the use fossil fuel, it still releases toxic materials into the environment. Therefore, the technologies simply divert concentration from the development of cleaner recycling and waste reduction technologies. Local communities, authorities and states need to put more efforts towards the education of waste management. Essentially, the slogan can

help reduce the levels of unsustainable waste that prove problematic in various environments across the globe. With the implementation and consistent practice of the three Rs, communities and local authorities as well as states will not only be able to manage waste but also move in the direction of achieving zero waste. More emphasis should be placed on responsible resource use with an objective of avoidance, maximizing recycling and waste reduction methods. Avoidance and waste reduction involves techniques such as repair of broken things instead of buying new, purchasing and re-using second-hand items, and designing reusable and recyclable products. Effective waste disposal and management An effective strategy for municipal waste disposal and management can offer improved solutions for the various problems associated with waste materials. It ensures there is gradual improvement of new and cost-effective facilities which aim to encourage higher environmental protection standards. An effective management strategy will also see to it that landfills are purposefully located to ease waste collection, transfer, and monitoring or recycling. This can be achieved through the implementation of waste disposal plan which must include proper monitoring and regulation of municipal solid and food waste , livestock waste, sewage sludge, clinical waste, and construction waste. Control and monitoring of land filling and fly-tipping activities Thousands of tones of construction and demolition materials are generated by various local construction industries. In most cases, a large portion of these waste materials can be re-used, reclaimed or recycled. With the control and monitoring of land filling and fly-tipping activities in the area of public works, construction and demolition materials can be resourcefully reclaimed, reused or recycled in other projects such as landscaping, village houses, recreation facilities or car parks, or roads. By applying these techniques and monitoring fly-tipping activities, the construction and demolition materials that sometime go into landfills which further worsen the management of solid waste can easily be managed. Waste Diversion Plans A multifaceted approach on waste transfer and diversion in terms of more hygienic and efficient waste disposal management can offer tremendous solution to waste problems. To address most of the waste problems, especially landfills and sewer material, the local authorities and state waste management facilities need to formulate waste diversion plans, with an objective of making certain that there is convenient and proper waste disposal at landfills and waste transfer facilities. Therefore, to mitigate the problems that come with thermal waste treatments â€” issues such as emission of toxic gases with organic compounds such as furans, PAHs, and dioxins ; states and researchers as well as green groups and academicians can explore the possible developments with regards to advanced thermal waste treatment techniques. Appropriate and improved thermal waste treatment technology is important as a strategy for tackling the environmental concerns. Polluter pays principle and eco-product responsibility Polluter pay principle is where the law requires the polluter to pay for the impact caused to the environment. When it comes to waste management, the principle will require those who generate waste to pay for the suitable disposal of non-reclaimable materials. Eco-product responsibility policy, on the other hand, is a tool for waste reduction, recovery and recycling. It is achieved by requiring producers, wholesalers, importers and retailers to share responsibility for the collection, treatment, disposal and recycling of used products with an aim of cutting back and steering clear of the environmental impacts caused by such products. All these measures must have a view to reduce wastage and encourage re-use and recycling.

DISPOSING OF WASTES pdf

7: Biological Waste Management and Disposal Â» Environmental Health & Safety Â» University of Florida

Radioactive waste management: nuclear power is the only energy-producing technology which takes full responsibility for all its wastes (radwastes) including nuclear waste disposal, management of radioactive waste and fully costs this into the product.

Hazardous wastes can be liquids, solids, gases, or sludges. They include commercial products, such as cleaning fluids or pesticides, and some by-products of manufacturing processes. It needs to be disposed of responsibly to prevent hazards to human and environmental health. The EPA has a list of hazardous wastes available on its website. Professional offices, too, must pay attention to disposal of janitorial supplies, building materials, and e-waste, which can harm human and environmental health. Improper hazardous waste disposal can harm the health of employees and local residents, as well as animals and plant life. It can contaminate soil and the local water supply and pollute the air. Reduce hazardous waste production. Sign up for local hazardous waste collection. Dispose of waste in the trash, not in the sink, toilet, or storm drain. Before figuring out how to properly dispose of hazardous waste, see if you can make less of it. Substitute hazardous materials with non-hazardous materials. Rethink your manufacturing or operating practices. Is there a less harmful way to produce your product or service? Train employees in proper manufacturing and handling processes. Replace old equipment with more efficient equipment. Segregate waste to avoid cross-contamination. Consider if another company could use your hazardous materials before you toss them. This might include paint, pesticides, and cleaning products. This may not work in some casesâ€" no company would have use for radioactive sludge, for instanceâ€" but see if recycling and donating will work for your business. Click here for more tips from the EPA on minimizing waste. Sign up for hazardous collection. Collection will make waste disposal easier for you and ensure that your business follows disposal regulations. Dispose of waste in the trash. Proper disposal of hazardous waste depends on the type of waste. For example, liquid hazardous waste is often disposed of in underground injection wells. Solid hazardous waste goes to places like landfills, waste piles, and land treatment units. However, some general rules apply to hazardous waste disposal: Dispose of hazardous waste in the trash rather than dumping it on the ground, in the toilet, or down the drain. In certain states and counties, it is illegal to throw e-waste e. For more specific disposal advice, visit this link on the EPA website to identify what types of hazardous waste your company produces. Then you can navigate to the federal disposal regulations that apply to you. Also see this user-friendly reference list for more help. Develop a hazardous waste policy. Train employees on the policy and procedures. All US businesses, nonprofits, and local governments can join, and members receive the following: Free technical assistance Access to web-based data management tracking tool, called Re-TRAC Opportunities to receive WasteWise Awards that recognize outstanding achievements Public recognition in WasteWise publications , case studies, and meetings Reduced purchasing and waste disposal costs Outreach and educational materials[3] Joining WasteWise may help you with the next two steps. Create a policy that clearly defines how your business reduces, handles, and disposes of hazardous waste. Putting your policy in writing will help you manage hazardous waste disposal and train employees on proper procedures. You can reference this hazardous waste policy from Rutgers University for guidance. Finally, train employees on your policy and procedures regarding hazardous waste disposal. You can supplement their training with outreach and educational materials from WasteWise. Case Study Gehl Company, an agricultural equipment manufacturer in Wisconsin, stripped paint from rejected parts using a hot sodium hydroxide bath. This created a large amount of hazardous paint waste. The company now strips paint with a plastic media blasting cabinet. Click here for more information on land disposal from the EPA. The EPA shares a number of helpful links about hazardous waste management and regulations. For more information on underground injection wells, click here. Conclusion Reducing or recycling your hazardous materials is best. However, if you must dispose of hazardous waste, sign up for hazardous waste collection. If you want to dispose of the waste, yourself, check the EPA website to identify your waste and how to properly dispose of it. We educate, motivate, and recognize smaller enterprises for their efforts towards becoming more sustainable.

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8: 3 Ways to Dispose of Hazardous Waste - wikiHow

Waste Disposal Solutions Eco-responsibility - "Reduce, Re-use, Recycle" Eco-responsibility pertains to the three Rs mantra of Re-use, Reduce, and www.enganchecubano.com communities, authorities and states need to put more efforts towards the education of waste management.

Worldwide[edit] Worldwide, the United Nations Environmental Programme UNEP estimated that more than million tons of hazardous wastes are produced universally each year, mostly by industrialized countries schmit, About 1 percent of this is shipped across international boundaries, with the majority of the transfers occurring between countries in the Organization for the Economic Cooperation and Development OECD Krueger, Hazardous wastes can be liquids, solids, contained gases, or sludges. They can be by-products of manufacturing processes or simply discarded commercial products, like cleaning fluids or pesticides. In regulatory terms, RCRA hazardous wastes are wastes that appear on one of the four hazardous wastes lists F-list, K-list, P-list, or U-list , or exhibit at least one of the following four characteristics; ignitability, corrosivity, reactivity, or toxicity. By definition, EPA determined that some specific wastes are hazardous. These wastes are incorporated into lists published by the Agency. These lists are organized into three categories: F-list non-specific source wastes found in the regulations at 40 CFR The primary contribution of CERCLA was to create a " Superfund " and provide for the clean-up and remediation of closed and abandoned hazardous waste sites. CERCLA addresses historic releases of hazardous materials, but does not specifically manage hazardous wastes. Hazardous waste in the U. Many types of businesses generate hazardous waste. Some hazardous waste generators are larger companies such as chemical manufacturers , electroplating companies, and oil refineries. Generators and transporters of hazardous waste must meet specific requirements for handling, managing, and tracking waste. Under this mandate, the EPA developed strict requirements for all aspects of hazardous waste management including the treatment, storage, and disposal of hazardous waste. In addition to these federal requirements, states may develop more stringent requirements that are broader in scope than the federal regulations. Most states take advantage of this authority, implementing their own hazardous waste programs that are at least as stringent, and in some cases are more stringent than the federal program. These tools also allow the user to view additional information. This is a resource funded by the US Federal Government. Universal wastes[edit] Universal wastes are a special category of hazardous wastes that in the U. Some of the most common "universal wastes" are: Universal wastes are subject to somewhat less stringent regulatory requirements. Small quantity generators of universal wastes may be classified as "conditionally exempt small quantity generators" CESQGs which release them from some of the regulatory requirements for the handling and storage hazardous wastes. Universal wastes must still be disposed of properly. Hazardous waste in the United States Household Hazardous Waste HHW , also referred to as domestic hazardous waste or home generated special materials, is a waste that is generated from residential households. HHW only applies to waste coming from the use of materials that are labeled for and sold for "home use". Waste generated by a company or at an industrial setting is not HHW. The following list includes categories often applied to HHW. It is important to note that many of these categories overlap and that many household wastes can fall into multiple categories:

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9: Principle 3: Dispose of Waste Properly | Leave No Trace

Waste management is collection, transportation, and disposal of garbage, sewage and other waste products. Waste management is the process of treating solid wastes and offers variety of solutions for recycling items that don't belong to trash.

Principles of waste management[edit] Diagram of the waste hierarchy Waste hierarchy[edit] The waste hierarchy refers to the "3 Rs" reduce , reuse and recycle , which classifies waste management strategies according to their desirability in terms of waste minimisation. The waste hierarchy is the cornerstone of most waste minimisation strategies. The aim of the waste hierarchy is to extract the maximum practical benefits from products and to generate the minimum amount of end waste; see: The next step or preferred action is to seek alternative uses for the waste that has been generated i. The next is recycling which includes composting. Following this step is material recovery and waste-to-energy. The final action is disposal, in landfills or through incineration without energy recovery. This last step is the final resort for waste which has not been prevented, diverted or recovered. The hierarchy represents the latter parts of the life-cycle for each product. Each stage in the life-cycle offers opportunities for policy intervention, to rethink the need for the product, to redesign to minimize waste potential, to extend its use. Resource efficiency[edit] Resource efficiency reflects the understanding that global economic growth and development can not be sustained at current production and consumption patterns. Globally, humanity extracts more resources to produce goods than the planet can replenish. This process of resource efficiency can address sustainability. Polluter-pays principle[edit] The polluter-pays principle mandates that the polluting party pays for the impact on the environment. With respect to waste management, this generally refers to the requirement for a waste generator to pay for appropriate disposal of the unrecoverable material. History of waste management Throughout most of history, the amount of waste generated by humans was insignificant due to low population density and low societal levels of the exploitation of natural resources. Common waste produced during pre-modern times was mainly ashes and human biodegradable waste , and these were released back into the ground locally, with minimum environmental impact. Tools made out of wood or metal were generally reused or passed down through the generations. However, some civilizations do seem to have been more profligate in their waste output than others. In particular, the Maya of Central America had a fixed monthly ritual, in which the people of the village would gather together and burn their rubbish in large dumps. Following the onset of industrialisation and the sustained urban growth of large population centres in England , the buildup of waste in the cities caused a rapid deterioration in levels of sanitation and the general quality of urban life. The streets became choked with filth due to the lack of waste clearance regulations. In the UK, the Nuisance Removal and Disease Prevention Act of began what was to be a steadily evolving process of the provision of regulated waste management in London. The Metropolitan Board of Works was the first citywide authority that centralized sanitation regulation for the rapidly expanding city and the Public Health Act made it compulsory for every household to deposit their weekly waste in "moveable receptacles: The use of incinerators for waste disposal became popular in the late 19th century. The dramatic increase in waste for disposal led to the creation of the first incineration plants, or, as they were then called, "destructors". In , New York City became the first U. They became motorized in the early part of the 20th century and the first closed body trucks to eliminate odours with a dumping lever mechanism were introduced in the s in Britain. The Garwood Load Packer was the first truck in , to incorporate a hydraulic compactor. Waste handling and transport[edit] Main articles: Waste collection vehicle , Dustbin , and Waste sorting Molded plastic, wheeled waste bin in Berkshire , England Waste collection methods vary widely among different countries and regions. Domestic waste collection services are often provided by local government authorities, or by private companies for industrial and commercial waste. Some areas, especially those in less developed countries, do not have formal waste-collection systems. Waste handling practices[edit] Curbside collection is the most common method of disposal in most European countries, Canada , New Zealand and many other parts of the developed world in which waste is collected at regular intervals by specialised trucks. This is often associated with curb-side

waste segregation. In rural areas waste may need to be taken to a transfer station. Waste collected is then transported to an appropriate disposal facility. In some areas, vacuum collection is used in which waste is transported from the home or commercial premises by vacuum along small bore tubes. Systems are in use in Europe and North America. Automated vacuum collection In some jurisdictions unsegregated waste is collected at the curb-side or from waste transfer stations and then sorted into recyclables and unusable waste. Such systems are capable of sorting large volumes of solid waste, salvaging recyclables, and turning the rest into bio-gas and soil conditioner. In San Francisco , the local government established its Mandatory Recycling and Composting Ordinance in support of its goal of "Zero waste by ", requiring everyone in the city to keep recyclables and compostables out of the landfill. Financial models[edit] In most developed countries, domestic waste disposal is funded from a national or local tax which may be related to income, or property values. Commercial and industrial waste disposal is typically charged for as a commercial service, often as an integrated charge which includes disposal costs. This practice may encourage disposal contractors to opt for the cheapest disposal option such as landfill rather than the environmentally best solution such as re-use and recycling. In some areas such as Taipei , the city government charges its households and industries for the volume of rubbish they produce. Waste is collected by the city council only if it is put in government issued rubbish bags. This policy has successfully reduced the amount of waste the city produces and increased the recycling rate.

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