

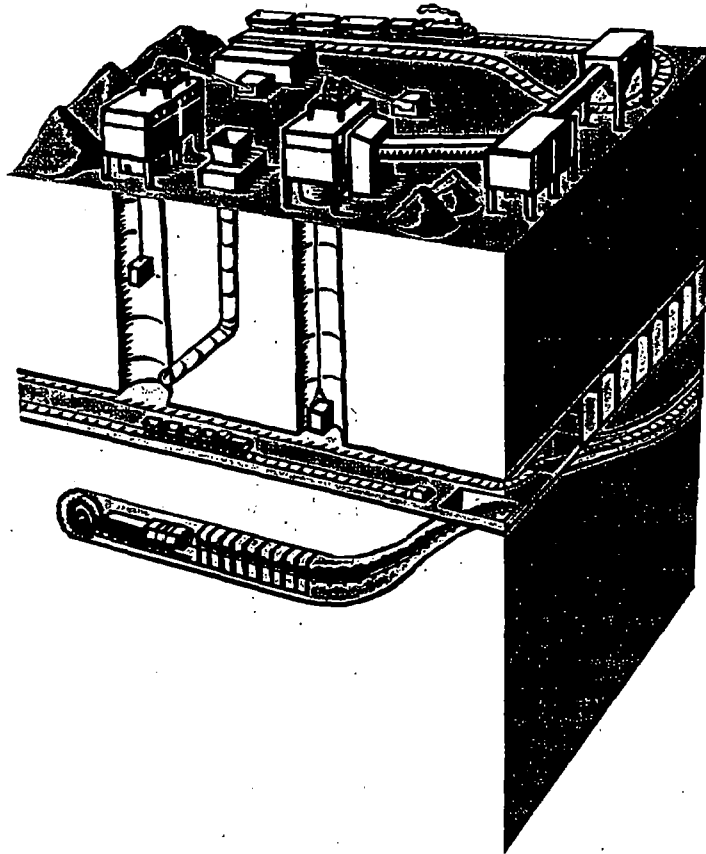


MINE GUIDE FOR HAZARDOUS WASTE MANAGEMENT

INTRODUCTION



This guide has been developed to assist in proper management of hazardous waste from Nevada Mining Operations. The guide provides a summary of hazardous waste regulations but is not intended to replace the actual regulations which are found in the Code of Federal Regulations (CFR) and the Nevada Administrative Code (NAC). For free and confidential assistance with hazardous waste management, air regulations, minimizing wastes and emissions contact Business Environmental Program, Nevada Small Business Development Center at (800) 882-3233 (within Nevada), or outside Nevada at (702) 689-6688.



WHAT ARE WASTES

Products being used for their intended purpose are not regulated as hazardous wastes. In order to be regulated as a hazardous waste a material must first be considered a waste. If a material is to be discarded, abandoned, recycled, reclaimed, has served its intended purpose, is off-specification, spilled, unusable, or will not be used, then it is considered a waste and may be regulated as hazardous waste. Wastes are considered hazardous waste if they meet the hazardous waste identification criteria discussed below. Some wastes which meet the definition of hazardous waste are not regulated as hazardous waste if they are exempted or excluded from hazardous waste regulations. Some wastes which are being recycled and many wastes from mining operations are exempt or excluded from the hazardous waste regulations.

BEVILL EXCLUSION OF CERTAIN MINING WASTES



Certain wastes from mining operations are exempt from the federal hazardous waste regulations. The Bevill exclusion (40 CFR 261.4(b)(7)) excludes "extraction and beneficiation" wastes and twenty specific types of mineral processing wastes from hazardous waste regulations. Most of the mining operations associated with gold and silver mining are considered extraction and beneficiation. Therefore, most of the waste associated with overburden and ore removal, milling, and leaching are not regulated as hazardous wastes. However, wastes not "uniquely associated" with mining are not exempt from hazardous waste regulations. These regulated wastes from mining operations include equipment and facility maintenance wastes, and wastes from assay labs.

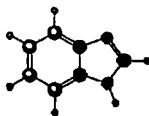
HAZARDOUS WASTE IDENTIFICATION



Wastes from mining operations which are not excluded under Bevill may be regulated as hazardous waste if they meet criteria for identifying wastes as hazardous. Even if the waste meets these criteria it may not be regulated as hazardous waste if it is managed in a particular fashion. See the information on exemptions and special wastes below.

A determination of whether a waste is a hazardous waste is required to be made "at the point of generation." This means that the criteria apply to the waste when it is first generated. You cannot, for example, mix different wastes together in a trash can or a drum and then make a determination of whether the mixture is hazardous or not. The determination of whether the waste is hazardous or not is based on the waste when it is first generated and before it was placed in the trash can or mixed with other materials. If a hazardous waste is mixed with other non-hazardous wastes, then the entire mixture is regulated as hazardous waste.

Listed Wastes - F, K, P and U -The hazardous waste regulations contain 4 lists of wastes which are regulated as hazardous wastes. The F-list contains a number of spent solvents and distillations bottoms that are regulated as hazardous wastes. The K-list is wastes from certain manufacturing processes which are regulated as hazardous wastes; none of the K-list wastes apply to gold or silver mining. The P-list are acutely toxic commercial chemical products which when discarded, off-spec, spilled, or are residues in containers, are regulated as hazardous wastes. Specific requirements for empty containers and generator status apply to P-listed waste (acutely hazardous waste), which are discussed below. The U-listed wastes, like the P-listed wastes are also commercial chemical products which are hazardous wastes when discarded, off-spec, or spilled. In Nevada if a P or U listed chemical is the sole active ingredient in the discarded chemical product or it contains 10% or more of a P or U listed chemical, it is regulated as a hazardous waste.



PARTIAL F-LIST:

F001	The following spent halogenated solvents used in degreasing: Tetrachloroethylene, trichloroethylene, methylene chloride, 1,1,1-trichloroethane, carbon tetrachloride, and chlorinated fluorocarbons; all spent solvent mixtures/blends used in degreasing containing, before use, a total of ten percent or more (by volume) of one or more of the above halogenated solvents or those solvents listed in F002, F004, and F005; and still bottoms from the recovery of these spent solvents and spent solvent mixtures
F002	The following spent halogenated solvents: Tetrachloroethylene, methylene chloride, trichloroethylene, 1,1,1-trichloroethane, chlorobenzene, 1,1,1-trichloro-1,2,2-trifluoroethane, ortho-dichlorobenzene, trichlorofluoromethane, and 1,1,2-trichloroethane; all spent solvent mixtures/blends containing, before use, a total of ten percent or more (by volume) of one or more of the above halogenated solvents or those listed in F001, F004, or F005; and still bottoms from the recovery of these spent solvents and spent solvent mixtures
F003	The following spent non-halogenated solvents: Xylene, acetone, ethyl acetate, ethyl benzene, ethyl ether, methyl isobutyl ketone, n-butyl alcohol, cyclohexanone, and methanol; all spent solvent mixtures/blends containing, before use, only the above spent non-halogenated solvents; and all spent solvent mixtures/blends containing, before use, one or more of the above non-halogenated solvents, and, a total of ten percent or more (by volume) of one or more of those solvents listed in F001, F002, F004, and F005; and still bottoms from the recovery of these spent solvents and spent solvent mixtures
F004	The following spent non-halogenated solvents: Cresols and cresylic acid, and nitrobenzene; all spent solvent mixtures/blends containing, before use, a total of ten percent or more (by volume) of one or more of the above non-halogenated solvents or those solvents listed in F001, F002, and F005; and still bottoms from the recovery of these spent solvents and spent solvent mixtures
F005	The following spent non-halogenated solvents: Toluene, methyl ethyl ketone, carbon disulfide, isobutanol, pyridine, benzene, 2-ethoxyethanol, and 2-nitropropane; all spent solvent mixtures/blends containing, before use, a total of ten percent or more (by volume) of one or more of the above non-halogenated solvents or those solvents listed in F001, F002, or F004; and still bottoms from the recovery of these spent solvents and spent solvent mixtures



Ignitable - A liquid is an ignitable hazardous waste if it has a closed cup flashpoint of less than 140 degrees Fahrenheit. A solid is an ignitable hazardous waste if it can cause fire through friction, absorption of moisture, or it spontaneously combusts. Oxidizers and ignitable compressed gases can also be ignitable wastes.



Corrosive - Aqueous solutions with a pH of less than or equal to 2 or greater than or equal to 12.5 are hazardous wastes. Liquids that corrode steel at a rate of more than a quarter inch a year are also corrosive wastes.



Reactive - Wastes such as explosives, some cyanide and sulfide bearing wastes which can generate toxic gases, vapors, and fumes sufficient to endanger human health, wastes which react violently with water or generate toxic gases, or wastes which explode or detonate if heated under confinement, are considered reactive hazardous wastes.



Toxic - A waste is a hazardous waste if when subjected to a laboratory analysis called the "Toxic Characteristics Leaching Procedure" (TCLP) it exceeds regulated levels for specific metals and organic chemicals. In Nevada, a streamlined test for 7 metals and 11 organics, called the 7-11 test is often used rather than the full TCLP which includes 39 parameters.

WASTE CODE	METALS	REGULATORY LEVEL, PPM	WASTE CODE	ORGANICS	REGULATORY LEVEL, PPM
D004	Arsenic	5.0	D018	Benzene	0.5
D005	Barium	100.0	D019	Carbon Tetrachloride	0.5
D006	Cadmium	1.0	D021	Chlorobenzene	100.0
D007	Chromium	5.0	D022	Chloroform	6.0
D008	Lead	5.0	D027	1,4-Dichlorobenzene	7.5
D010	Selenium	1.0	D028	1,2-Dichloroethane	0.5
D011	Silver	5.0	D029	1,1-Dichloroethylene	0.7
			D035	Methyl Ethyl Ketone	200.0
			D039	Tetrachloroethylene	0.7
			D040	Trichloroethylene	0.5
			D043	Vinyl Chloride	0.2

EXEMPTIONS FOR CERTAIN RECYCLED WASTES



In Nevada, certain wastes are not regulated as hazardous waste or are only partially regulated if they are recycled. However you should document that the wastes are being recycled through receipts, invoices, etc. If by the end of a calendar year (December 31) you have not had at least 75% of the waste you had on-site at the beginning of that calendar year (January 1) recycled or picked up for recycling, then the waste is fully regulated as hazardous waste and the exemption or exclusion no longer applies. In other words, don't accumulate excessive quantities of these wastes. Have them picked up periodically to be recycled.

Used Oil - Used oil is not regulated as a hazardous waste if it is recycled or burned for energy recovery. Keep invoices or receipts showing that the used oil was properly handled. In Nevada, you may also burn your own used oil on-site in a used oil burner used for space heating. Used oil must be stored in closed containers or tanks that are labeled "Used Oil." For complete information on managing used oil, see BEP's *Understanding Used Oil* fact sheet.

Antifreeze - In Nevada, antifreeze is not regulated as hazardous waste as long as it is being recycled. You can recycle antifreeze on-site with your own equipment, use a mobile recycler, or use an off-site recycling facility. Keep documentation that your used antifreeze was recycled. Used antifreeze containers and tanks must be kept closed and labeled "Used Antifreeze." Used antifreeze must not be placed in underground tanks.

Wipers and Rags - In Nevada, shop towels, wipers, and rags, which are laundered for re-use are not regulated as hazardous wastes. The shop towels, wipers, and rags cannot contain any free liquids. The shop towels are required to be kept in closed and labeled containers and must be sent to an industrial laundry. If you are not

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having your shop towels, wipers, or rags laundered for reuse you must determine if they are hazardous wastes and handle them appropriately. For further information see BEP's *Wipers and Rags* fact sheet.

Lead Acid Batteries - Lead acid batteries which are being reclaimed or recycled are not regulated as hazardous waste. However, care should be taken to store the batteries safely so they don't become cracked or damaged. Receipts, invoices, or "core fees" should be kept on file to document the batteries are being properly recycled.

Scrap Metal - Scrap metal which is being recycled is not regulated as hazardous waste. Scrap metal is defined as "bits and pieces of metal parts (e.g., bars, turning rods, sheets, wire) or metal pieces that may be combined together with bolts or soldering (e.g., radiators, scrap automobiles, railroad box cars)."

Precious Metals Recovery - Wastes which contain gold, silver, palladium, and other precious metals are not fully regulated as hazardous wastes during on-site accumulation if they are going to be recycled for precious metals recovery. However, a hazardous waste manifest is required for off-site shipments of these wastes by large and small quantity generators and these wastes are included in determining a facilities generator status.

SPECIAL WASTES

Used Oil Filters - In Nevada, used oil filters which have: 1) been punctured (on the dome end); 2) had any anti-backflow devices disabled; and 3) drained at a temperature of at least 60 degrees Fahrenheit for 12 hours are not regulated as hazardous waste. Used oil filters that are crushed to remove contained oil, or disassembled to remove contained oil are also not regulated as hazardous waste. For further information please see the *Used Oil Filter* Fact Sheet.



Aerosol Cans - Aerosol cans that are empty and are no longer pressurized are not regulated as hazardous waste. If cans become clogged and are pressurized they may be considered reactive hazardous waste due to the pressure, and may be determined to be hazardous waste due to the remaining product contents. However, Nevada will allow generators of 12 or less aerosol cans per month which are not empty to dispose of these cans as municipal waste without taking any enforcement action. Drum mounted equipment is available which allows clogged aerosols to be punctured and drained. After this they are considered empty containers and are not regulated as hazardous waste. For further information please see the *Aerosol Cans* Fact Sheet.

Fluorescent Tubes - Fluorescent tubes may be hazardous waste due to their mercury and cadmium content. However, Nevada will allow businesses that generate 25 or less fluorescent tubes per month to dispose of these as municipal trash without taking enforcement action. If more than 25 tubes per month are generated a waste determination should be made, or the tubes should be sent to a fluorescent tube recycler as a hazardous waste. For further information please see the *Fluorescent Tubes* Fact Sheet.

UNIVERSAL WASTE RULE (BATTERIES, PESTICIDES, MERCURY THERMOSTATS)

Certain pesticides, mercury thermostats, and batteries can be handled through the Universal Waste Rule. Universal wastes are not required to be managed as hazardous waste if they are shipped or delivered to a universal waste handler. Unfortunately, BEP is not aware of any universal waste handlers in Nevada. The batteries, pesticides and mercury thermostats covered under the Universal Waste Rule include:

Batteries - Batteries covered under the Universal Waste Rule include any device consisting of one or more electrically connected electrochemical cells which is designed to receive, store, and deliver electric energy, including an intact, unbroken battery from which the electrolyte has been removed. Batteries which are not
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managed as universal waste or under the lead acid battery exemption, may be hazardous waste due to corrosivity, or cadmium, lithium, or mercury content.

Pesticides - Pesticides covered under the Universal Waste Rule are pesticides which have been recalled or cancelled by the government or the registrant or other unused pesticide products that are collected and managed as part of a waste pesticide collection program.

Mercury Thermostats - Mercury thermostats include both entire thermostats containing mercury or mercury ampules removed from thermostats.

EMPTY CONTAINERS

In Nevada, empty containers are not regulated as a hazardous waste. A container is considered empty if: (1) you have made a good faith effort to remove the contents of the container, and (2) there is less than 1 inch of residue or 3% by weight of the total capacity of the container left behind. If the container held a 'P' listed (acutely hazardous) material, in addition to the above definition, the container must be triple rinsed for it to be considered empty. You may wish to triple rinse all laboratory containers in case P-listed chemicals are present.

TYPICAL HAZARDOUS WASTES FROM EQUIPMENT AND FACILITY MAINTENANCE

Absorbents - In Nevada, absorbents contaminated from incidental spills of used oil are not regulated as hazardous waste provided the spill is less than 25 gallons. Spills of greater than 25 gallons of oil are required to be reported to the Nevada Division of Environmental Protection. Absorbent from clean-up of these greater than 25 gallon spills should be tested to determine whether it needs to be disposed of as hazardous waste. For further information please see the *Understanding Used Oil* Fact Sheet.

Absorbents that are contaminated with other substances (i.e. solvents, paints, etc.) are subject to a determination of whether they are hazardous wastes. If the absorbent is contaminated with a material which is a listed hazardous waste then the absorbent is automatically regulated as hazardous waste. Otherwise, it must be determined whether the absorbent has any of the hazardous waste characteristics (is it ignitable, reactive, corrosive or toxic). This determination can be made using either knowledge of the material contaminating the absorbent, or through laboratory testing. In Nevada, the 7-11 test, which is a modified Toxic Characteristic Leaching Procedure (TCLP) test for seven metals and eleven organics, is commonly

used to make hazardous waste determinations. Contact the Business Environmental Program for assistance in this area.

Waste reduction options include: using drip pans to capture used oil; improving material handling procedures to reduce the potential for spills and leaks, reusing absorbent (by screening or sieving absorbent to remove spent clumps from reusable absorbent); or using light highly absorbent materials to reduce waste generation.

Spent Solvents - Many solvents used in equipment repair are considered hazardous waste. This hazardous waste determination is commonly because the solvent has a flashpoint below 140 degrees Fahrenheit, because the solvent is contaminated with toxic constituents from cleaning parts, or because the solvent is specifically listed as a hazardous waste in the regulations. Many facilities are switching to high flashpoint solvents which are continuously filtered or treated by enzymes in the solvent sinks. Cabinet parts washers are also being used to reduce solvent wastes. If you have a solvent recycling company providing solvent services you may want to reduce the frequency of solvent change out to reduce waste generation. Waste reduction alternatives for solvent

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waste include precleaning and sequential cleaning, solvent replacement, filtration, and distillation. For more information on these waste reduction alternatives, see BEP's *Waste Management and Reduction for Automotive Repair Shops* fact sheet.

Carb Cleaners - Most carb, brake, and electrical contact cleaners used in equipment maintenance shops are considered hazardous waste because they contain F-listed solvents such as MEK, 1,1,1-Trichloroethane or methylene chloride. Care should be taken to ensure these cleaners are not mixed with parts cleaning solvent. Also, spraying these cleaners over solvent sink should be avoided to eliminate any cross contamination. Waste reduction alternatives for carb, brake, and electrical contact cleaners include switching to alternatives that do not contain the F-listed solvents. Contact BEP for information on alternative cleaning products.



Parts Washing Solutions - Spent solutions from cabinet parts washers can be hazardous due to heavy metals contamination or contamination from other solvents used in the shop. These solutions may also be corrosive. The solutions should be tested for toxic characteristics in order to determine proper management. The washing solutions may be discharged if they comply with your Water Pollution control Permit requirements from the Bureau of Mining Regulation and Reclamation. Evaporation of these solutions may be another option for their management. Contact BEP for further information on this alternative.

Vehicle Wash Waters and other Wastewaters - Vehicle wash waters and other wastewaters are not allowed to be surface discharged without a permit. These wash waters and wastewaters are also not allowed to be disposed to septic systems. These wash waters should be captured. You may be able to discharge to your tailings pond if the wash waters comply with your Water Pollution Control Permit from the Bureau of Mining Regulations and Reclamation. There is equipment available that allows for filtration and treatment of these wash waters, or allows for recycling of wash waters. Contact BEP for further information on the available equipment.



Waste Paint - Waste paint from overstock, excess paint in paint guns, cans, or lines, etc., is often considered a hazardous waste due to flashpoint below 140 degrees, solvents included in the toxic characteristics list, or heavy metals in pigments. Water based paints and primers are usually non-hazardous, however, sometimes they still contain heavy metals in pigments. Use of water based paints can reduce hazardous paint waste generation and also reduce the need to use solvents for clean-up. Attention to inventory control and only buying or mixing as much as is needed for the job can also reduce paint wastes. Leftover paint may be used for primer coats or be donated to another user that can use the material for its intended purpose.

Paint Thinner - Waste paint thinner is usually considered a hazardous waste because it has a flashpoint below 140 degrees, contains F-listed solvents, or it has heavy metals from paint pigments or solvents on the toxic characteristics list. Paint thinner waste can be recycled using solvent distillation units, and in many cases, can be gravity separated and decanted for reuse to extend the thinner life. Spent thinner from cleaning operations may also be used in formulating paints of a similar color. Paint gun pot liners are available which can be removed from the paint pot after use and reduce the need for solvent cleaning of paint pots. Scheduling painting jobs from lighter to darker colors, or dedicating paint guns can also reduce cleaning requirements. Automated gun cleaner equipment will capture gun wash and allow it to be reused. Alternative cleaning products are also available to replace hazardous gun cleaning solvents.

Shop Towels, Wipers, and Rags - Shop towels, wipers, and rags may be hazardous waste if they are used with listed solvents or fail the 7-11 test. In Nevada, wipers and rags that are sent to an industrial laundry for reuse

are not regulated as hazardous waste. If wipers and rags are disposed of, a determination of whether they are hazardous waste should be made. To reduce hazardous waste wipers and rags, consider switching to non F-listed solvents or use paper wipers which will result in a smaller quantity of hazardous waste than cloth rags. Please see the *Proper Management of Wipers and Rags* Fact Sheet for more information.

Sludges - Sludges may be considered a hazardous waste if they exhibit the characteristic of toxicity, i.e., fail the 7-11 TCLP test. The sludge must be tested under the 7-11 TCLP test to determine if they are hazardous and handled appropriately. Look in the yellow pages of the phone book under "Laboratories-Analytical," or call BEP to locate testing labs.

Filters from Antifreeze and Solvent Recycling - Filters from antifreeze recycling should be laboratory tested for lead contamination and may require management as hazardous waste. Filters from solvent recycling should be tested using the 7-11 test to determine whether they are hazardous. Proper material handling procedures which prevent spraying other cleaning solvents (such as brake cleaner) over the solvent sink will reduce the potential for the filters testing hazardous.

Still Bottoms from Solvent Distillation - Still bottoms from the distillation of F-listed solvents are automatically considered an F-listed hazardous waste and therefore must be handled as a hazardous waste. If the solvent reclaimed is not an F-listed solvent, the still bottoms could exhibit the characteristic of toxicity, and should be tested under the 7-11 TCLP and managed appropriately.

TYPICAL WASTES FROM ASSAY LABS



Cupels and Crucibles - Cupels and crucibles from fire assay labs typically exceed the regulatory level of 5 mg/l of lead when a TCLP analysis is conducted. Cupels and crucibles should be managed as hazardous wastes. Since waste cupels and crucibles are considered spent materials they are regulated as hazardous waste even when being reclaimed for lead value.

In some cases the cupels and crucibles may be used as a substitute for a commercial chemical in the mill circuit to enhance gold or silver recovery from the ore. If this beneficial reuse of the material is documented, the cupels and crucibles are not considered to be a waste. Mines interested in pursuing this option should request a copy of the Nevada Division of Environmental Protection (NDEP) letter issued in February 1993, on this topic and work with the Bureau of Mining Regulation and Reclamation to ensure appropriate documentation of the beneficial reuse. Copies of the NDEP letter can be received from BEP.

Slags - Slags often contain lead above the TCLP limit. If this is the case, the slags should be managed as hazardous waste like the cupels and crucibles. You may wish to test your slags for lead since the glassy matrix of the slag may not leach as much lead and some mines have determined their slags are not hazardous.

Chemical Solutions - Chemical solutions from the laboratories may be hazardous due to corrosivity (pH) and/or due to heavy metals or organic chemicals (TCLP) in the solutions, or due to flashpoint. If a waste solution is hazardous only due to the pH it can be neutralized on-site without a permit. Waste solutions may be treated and discharged in accordance with an NDEP Bureau of Mining Water Pollution Control Permit; in this case, the treatment process is not subject to hazardous waste treatment permitting requirements through the NDEP Bureau of Waste Management.

If you can't manage hazardous waste laboratory solutions under these scenarios you may have to manage the solutions as hazardous wastes. Check with the Business Environmental Program or NDEP on other potential options.

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Discarded Chemicals - Discarded chemicals from laboratory operations may be regulated as hazardous wastes. Discarded chemical products include commercial chemical products, off-spec chemicals, and spills of commercial chemical products. Chemical products with sole active ingredients on the P or U lists are regulated as hazardous waste when discarded. In addition, in Nevada, if a mixture of commercial chemical product wastes contain at least 10 percent of P or U listed chemicals which were active ingredients then the mixture is regulated as a hazardous waste when discarded. P and U listed wastes are not practical to treat on-site because the residuals from treatment are also regulated as hazardous wastes. Typically these wastes are managed as hazardous wastes and shipped off-site for treatment or disposal.

Laboratory chemicals may not be on the P or U lists of hazardous wastes, but may be hazardous due to ignitability, corrosivity, or due to toxic characteristics (TCLP). These wastes may be managed like chemical solutions (see above).

Chemical Spills - Spills of laboratory chemicals are regulated as hazardous waste if the chemical which was spilled is determined to be a hazardous waste. Contaminated absorbent materials determined to be hazardous waste, should be managed as such. The absorbent should be managed as a hazardous waste.

GENERATOR STATUS

Facilities which generate hazardous waste must know on a monthly basis how much hazardous waste they generate in order to determine what generator status category they fall within. The categories of generator status determine which hazardous waste regulations apply to the facility. The generator categories also determine how much hazardous waste a facility can accumulate on-site and how long the waste can be accumulated. In determining generator status, a facility must consider all hazardous waste generated during the month and cannot average the generation of wastes which are produced periodically rather than regularly. Generator status is based on the actual generation of hazardous wastes for each month within the facility, not how much hazardous waste a business ships off at one time. Hazardous wastes which are treated or recycled at the facility immediately without any accumulation are not counted toward the facility's generator status. For more information see BEP's fact sheet *Determining Your Generator Status*.

The three hazardous waste generator categories are described below and in the attached matrix.

Conditionally Exempt Small Quantity Generator (CESQG) - The cumulative quantity of all hazardous wastes generated during a calendar month is less than 220 lbs. (approximately 26 gallons based on the density of water). Conditionally exempt small quantity generators may not generate 2.2 pounds or more of P-listed hazardous wastes in any one month. In Nevada, CESQGs are not required to have an EPA ID number. The basic requirements for conditionally exempt small quantity generators are:

- 1) Properly identify all hazardous wastes.
- 2) Don't accumulate more than 2,200 lbs. of hazardous waste on-site.
- 3) Dispose, treat, or recycle the waste at a facility that is allowed to accept it.

Most of the specific requirements in the remainder of this fact sheet apply only to small and large quantity generators. However, CESQGs are encouraged to comply with most of these regulations to minimize their potential for spills, releases, or mismanagement of hazardous wastes.

Small Quantity Generator (SQG) - Small quantity generators generate between 220 and 2,200 lbs (26 -260

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gallons) of hazardous waste in a calendar month, and less than 2.2 lbs of P-listed wastes. In Nevada, small quantity generators are required to have an EPA ID number and must comply with almost all of the hazardous waste management regulations.

Large Quantity Generators (LQG) - Large quantity generators generate 2,200 lbs or more of hazardous waste in a calendar month or 2.2 lbs or more of P-listed wastes. Large quantity generators must have an EPA ID number. LQGs have the most hazardous waste management regulations to comply with. This fact sheet will identify the requirements that both SQGs and LQGs must comply with. Requirements that apply only to LQGs will be specifically noted.

LABELING

While hazardous waste is accumulating (the drum is filling up) on-site, containers must be clearly marked and labeled with the following:

- 1) The words "Hazardous Waste";
- 2) A description of the waste (waste solvent, waste paint/thinner, etc);
- 3) The EPA waste code number(s) (D001 for ignitability, etc);
- 4) Once 55 gallons of hazardous waste has accumulated, the date on which the container was filled must be placed on the container.

ON-SITE CONTAINER MANAGEMENT



The following requirements apply to on-site container management:

- 1) Containers must be in good condition and compatible with the waste placed in them;
- 2) Containers must be closed (no open bungs) at all times that material is not being added or removed;
- 3) Hazardous waste storage area must be inspected weekly and the inspection documented;
- 4) Incompatible materials need to be kept separated or have a physical barrier between them.
- 5) Containers may not be handled or stored in a manner which may cause the container to rupture or leak. (Protect them from high traffic areas and direct sun or freezing).
- 6) Secondary containment is not required by the hazardous waste regulations but is required by the State Fire Marshal's Office.
- 7) Adequate aisle space between pallets of drums is required to be able to conduct inspections and respond in emergencies (two and a half feet is a rule of thumb minimum).
- 8) Once 55 gallons of waste have accumulated, the date the container became full must be placed on the container and it must be moved to a central accumulation area within three days. LQGs cannot accumulate wastes in a central accumulation area (drums "full" must be separate from drums "filling up").
- 9) LQGs cannot accumulate ignitable or reactive wastes within 50 feet of the property line.
- 10) LQGs must comply with air emission standards for waste with greater than 500 parts per million by weight (ppmw) volatile organic compounds. Containers of less than 26 gallon capacity are exempt. Containers which meet DOT packaging specifications have a capacity of less than 119 gallons, and which are kept closed, comply with this requirement.

SPILL AND EMERGENCY RESPONSE



Facilities must be maintained and operated to minimize the possibility of a fire, explosion, or release of a hazardous waste or hazardous waste constituents.

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Each facility must have an emergency coordinator either on the premises or on-call with the responsibility of coordinating emergency response measures. Emergency responses include:

- 1) Fire- calling the fire fighting unit or extinguishing the fire
- 2) Spills - containing the spill and cleaning up the waste and contaminated materials as soon as is practicable;
- 3) Fire, explosion, or other release which reaches surface water or threatens human health outside the facility, immediately contact:

National Response Center	(800) 424-8802
NDEP	(702) 687-4670
OEM	(702) 687-4240.

The following information must be posted next to the phone:

- Emergency Coordinator and phone number;
- Locations of fire extinguishers, spill kits, and fire alarm;
- If no fire alarm, the phone number of the fire department or fire fighting unit.

All employees must be familiar with waste handling and emergency procedures relevant to their responsibilities.



Required Equipment - The following equipment is required unless none of the hazards posed by the wastes at a facility would require it:

- 1) Internal communications or alarm to provide emergency instructions or signals to personnel;
- 2) Telephone of two-way radio to summon emergency assistance;
- 3) Portable fire extinguishers, fire control equipment, spill control equipment, and decontamination equipment;
- 4) Water at adequate volume and pressure for fire control equipment.

Whenever hazardous waste is handled, personnel involved must have immediate access to an emergency communication device.

Contingency Plan (for LQGs) - All large quantity generators are required to have a written contingency plan which is designed to minimize hazards to human health and the environment from emergencies and which is to be carried out immediately in case of emergency. The contingency plan is required to be maintained at the facility, and is also required to be submitted to local police, and fire departments, hospitals, and state and local emergency response teams. The Contingency Plan and Emergency Procedures requirements that apply to LQGs can be found in 40 CFR 265 Subpart D or contact BEP.

Personnel Training (for LQGs) - Large quantity generators must provide and document training programs which provide facility personnel hazardous waste management procedures (including contingency plan implementation) relevant to the positions in which they are employed. Personnel must receive this training within six months of their employment or assignment to a new position at the facility. The employees may not work in unsupervised positions until they receive the training. Employees must also receive a yearly refresher course. The regulations on the training and documentation required can be found in 40 CFR 265.16 or contact BEP.

HAZARDOUS WASTE MANIFESTS, NOTIFICATIONS AND CERTIFICATIONS

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Offsite shipments of hazardous waste must be accompanied by a hazardous waste manifest for SQGs and LQGs. The manifest is a tracking document which identifies the waste being shipped, the generator of the waste, the transporter, and the facility the waste is shipped to. You must use the manifest designated for the State you are shipping your waste to, or if that state doesn't have its own specific manifest, any State manifest or the Federal manifest form will work.

When the waste is shipped, the transporter leaves a copy of the manifest with you which is completely filled out and signed by you and the transporter.

Within 30 days the facility you shipped the waste to, must return the original manifest, fully signed.

For out-of-state shipments, when you receive the fully signed original manifest back from the facility, make a copy and send it to: Bureau of Waste Management, Nevada Division of Environmental Protection, 333 W. Nye Lane, Carson City, NV 89710.

LQGs which do not receive the fully signed original manifest copy from the facility must make an "Exception Report" to NDEP within 45 days.

SQGs which do not receive the fully signed original manifest copy must notify NDEP within 60 days.

Most hazardous wastes are subject to Land Disposal Restriction regulations which require a notification to the facility the waste is shipped to. The notification is paperwork which accompanies the manifest. A certification is required from facilities which claim the waste meets the land disposal restrictions.

Toll Agreements - SQGs are not required to use manifests when their waste is reclaimed under a contractual agreement and the waste and reclaimed materials are transported to and from the generators' facility in a vehicle owned and operated by the reclaimer. An example is the solvent recycling service provided by "Safety Kleen." In this case the invoice takes the place of the manifest.

RECORDKEEPING



A number of documents and records are required to be maintained at your facility and an inspector can request to see them.

Manifests - Keep the fully signed original manifest a minimum of three years from the date of shipment. We recommend five years. Once the fully signed manifest is received, the manifest copy kept from the date of shipment (with only your signature and the transporter's) can be discarded.

Toll Agreements - Keep the contractual agreement for the recycling service for 3 years after the service was last used. The agreement must specify the type of waste and the frequency of shipments. Invoices or receipts should also be kept for three years from the date of shipment.

Notifications/Certifications - Notifications and certifications required by the Land Disposal Restriction regulations must be maintained in your files for five years from the date of shipment. Keep a copy of the notification or certification which accompanies the manifest in your files when you ship the waste.

Weekly Container Inspections - Logs which document weekly container inspections must be maintained in your files for three years. The log must indicate the time and date on which the inspection occurred, the person conducting the inspection, the container areas inspected, and whether any problems with leaks or corrosion were noted and how they were responded to.

Waste Determinations - Files which document how a waste was determined to be a hazardous or non-hazardous waste are required to be maintained at the facility. Since these determinations are the basis for the land disposal restriction notifications they are required to be kept on file for five years. Documentation can include test results, MSDS information or other documentation of generator knowledge used to make the determination.

Biennial Reports - In Nevada, every facility with an active EPA ID number (whether you generated hazardous waste or not) is required to submit a biennial (every two years) hazardous waste report. The reports are due by March 1 of even numbered years. Copies of the reports must be kept on file for three years.

Exception Reports - Exception reports (submitted when completed manifests are not received from the disposal facility within certain time period) must be maintained on file for three years.

Contingency Plans and Training Records (LQGs) - Contingency plans and training records which are required for LQGs must be maintained on-site. Training records for former employees must be kept for three years after they last worked at the facility.

Enforcement Extension - During unresolved enforcement actions the recordkeeping requirements are automatically extended and documents must be maintained on file until the action is resolved.

