United States Department of Agriculture

Forest Service

Allegheny National Forest

Hazardous Materials and Waste Management Plan

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HAZARDOUS MATERIALS AND WASTE MANAGEMENT PLAN

Allegheny National Forest

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SECTION 1.0 - INTRODUCTION

1.1 INTRODUCTION

This plan was developed for the Allegheny National Forest (ANF). Waste generation in most cases is a direct result of improper management of hazardous materials. Cost to manage hazardous waste is exorbitant due to regulatory oversight, loss of Forest Service productivity, loss of usable product, and storage, transportation and disposal of wastes. A Conditionally Exempt Small Quantity Generator (CESQG) of hazardous waste generates less than 100 kg (approximately 220 lbs.) of hazardous waste, or less than 1 kg of acutely hazardous waste per month. A Small Quantity Generator (SQG) generates between 100 kg and 1,000 kg of hazardous waste per month (between 220 lbs. and 2204 lbs.). Management costs, health issues, and safety issues are improved as an entity such as the Forest Service moves from a SQG to a CESQG. A goal of the Allegheny National Forest is to attain the lowest category of hazardous waste generation, a rate of 0 lbs. per month. For the purposes of this plan, it is assumed that all Region 9 forests are presently either a CESQG or a SQG.

To assist the Safety and Occupational Health Specialist and the users of this plan, reference the Region 9 Guidelines, Checklists, and Appendix documents, which cover specific waste streams (i.e. Used Oil & Filters District Guidelines and Checklist). These are excellent resources for management of the wastes. The Everyday Hazmat User's Training Guide is an easy to use reference and guideline for hazardous waste and hazardous material generation. This document will provide additional management tips on management techniques of hazardous materials and waste issues. These documents should be used by the ANF in conjunction with this plan to enhance the efficiency of the purpose of this plan.

1.2 OVERALL PLAN PURPOSE

The purpose of this plan is to assist the ANF with managing their hazardous materials and hazardous wastes. The plan should be used as a "living document" and reviewed and revised frequently in order to help the ANF understand compliance issues, the economics of waste generation, and initiatives needed to reduce and eventually eliminate hazardous waste generation.

1.3 HOW THIS PLAN SHOULD BE USED AND BY WHOM

This plan should be adopted by the Forest Supervisor and delegated to Line Officers with specific responsibilities and controls for purchasing hazardous materials and managing hazardous waste. If hazardous waste is generated, a specific person (Hazardous Waste/Material Program Manager) should be identified and trained to handle hazardous material issues and hazardous waste management. The Forest Safety and Occupational Health Specialist should review this plan annually, at a minimum, to update it as needed, arrange necessary training, and develop goals for the ANF to provide for continuous improvement in the principals presented in the plan; namely the reduction of hazardous waste generation and the proper management of hazardous materials.

SECTION 2.0 – HAZARDOUS MATERIALS

What is a hazardous material?

A ***hazardous material*** is any item or agent (biological, chemical, physical) that has the potential to cause harm to humans, animals, or the environment, either by itself or through interaction with other factors.

Hazardous materials are defined and regulated in the United States primarily by laws and regulations administered by the U.S. Environmental Protection Agency (EPA), the U.S. Occupational Safety and Health Administration (OSHA), the U.S. Department of Transportation (DOT), and the U.S. Nuclear Regulatory Commission (NRC). Each has its own definition of a "hazardous material."

OSHA's definition includes any substance or chemical which is a "health hazard" or "physical hazard," including: chemicals that are carcinogens, toxic agents, irritants, corrosives, sensitizers; agents that act on the hematopoietic (blood cell formation) system; agents which damage the lungs, skin, eyes, or mucous membranes; chemicals that are combustible, explosive, flammable, oxidizers, pyrophorics, unstable-reactive or water-reactive; and chemicals that in the course of normal handling, use, or storage may produce or release dusts, gases, fumes, vapors, mists or smoke, which may have any of the previously mentioned characteristics. (Full definitions can be found at 29 Code of Federal Regulations (CFR) 1910.1200.)

The EPA incorporates the OSHA definition, and adds any item or chemical that can cause harm to people, plants, or animals when released by spilling, leaking, pumping, pouring, emitting, emptying, discharging, injecting, escaping, leaching, dumping or disposing into the environment. (40 CFR 355 contains a list of over 350 hazardous and extremely hazardous substances.)

USDOT defines a hazardous material as any item or chemical which, when being transported or moved, is a risk to public safety or the environment, and is regulated as such under the following regulations: Hazardous Materials Regulations (49 CFR 100-180); International Maritime Dangerous Goods Code; Dangerous Goods Regulations of the International Air Transport Association; Technical Instructions of the International Civil Aviation Organization; and U.S. Air Force Joint Manual, Preparing Hazardous Materials for Military Air Shipments.

The NRC regulates items or chemicals which are "special nuclear source" or by-product materials or radioactive substances. (See 10 CFR 20).

A few examples of hazardous materials typically stored and used in the USDA Forest Service include:

- Gasoline
- Fertilizers
- Drip Torch Fuel
- Pesticides/herbicides
- 2-Cycle Engine Oil
- Propane
- Fuses
- Bar & Chain Oil

- Household-Type Cleaning Products
- Potassium permanganate ("ping pong balls")
- Automotive-Type Fluids
- Various Types of Paints

2.1 HOW TO CLASSIFY HAZARDOUS MATERIALS FOR PROPER STORAGE

The purpose of this section is to identify and classify hazardous materials that are commonly found in the USDA Forest Service. Once identified, the initiative is established to provide the proper storage, handling, use and, when needed, removal of these hazardous substances.

Safety Data Sheets (SDSs)

In order to safely and properly handle and store hazardous materials, it is important for employees to first know the hazards of those materials. Although the label on a container may appear to be an ideal place to start, the label may not necessarily contain enough data to inform the user on how to properly store, transport or handle that material. Instead, the best source of information for the specific type, purity and hazards of a material is its Safety Data Sheet (SDS), (formerly Material Safety Data Sheet or MSDS). The Hazard Communication Standard (HCS) (29 CFR 1910.1200(g)), revised in 2012, requires the chemical manufacturer, distributor, or importer to provide a user-friendly, 16-section SDS for each hazardous material. Commencing June 1, 2015 the 16 sections of an SDS, which must be in English and in a uniform format, will include the following headings and associated information:

- **Section 1: Identification** product identifier; manufacturer or distributor name, address, phone number; emergency phone number; recommended use; restrictions on use.
- **Section 2: Hazard(s) identification** includes all hazards regarding the chemical.
- **Section 3: Composition/information on ingredients** includes information on chemical ingredients; trade secret claims.
- **Section 4: First-aid measures** includes important symptoms/ effects, acute, delayed; required treatment.
- **Section 5: Fire-fighting measures** lists suitable extinguishing techniques, equipment; chemical hazards from fire.
- **Section 6: Accidental release measures** lists emergency procedures; protective equipment; proper methods of containment and cleanup.
- **Section 7: Handling and storage** lists precautions for safe handling and storage, including incompatibilities.
- **Section 8: Exposure controls/personal protection** lists OSHA's Permissible Exposure Limits (PELs); Threshold Limit Values (TLVs); appropriate engineering controls; personal protective equipment (PPE).
- **Section 9: Physical and chemical properties** lists the chemical's characteristics.
- **Section 10: Stability and reactivity** lists chemical stability and possibility of hazardous reactions.

- **Section 11: Toxicological information** includes routes of exposure; related symptoms, acute and chronic effects; numerical measures of toxicity.
- **Section 12: Ecological information***
- **Section 13: Disposal considerations***
- **Section 14: Transport information***
- **Section 15: Regulatory information***
- **Section 16: Other information** includes the date of preparation or last revision.
- *Note: Since other Agencies regulate this information, OSHA will not be enforcing Sections 12 through 15(29 CFR 1910.1200(g)(2)).

OSHA requires that manufacturers and distributors provide SDSs to all purchasers and furnish new SDSs information upon request. Employees shall not handle hazardous materials that do not have an SDS. SDSs must be readily accessible to employees at all times. If an SDS is not provide or cannot be located, contact the manufacturer or distributor immediately to obtain one prior to handling or storing the product.

Compatibility

Information in an SDS pertaining to a hazardous material's physical and chemical characteristics (flammability, explosiveness, ignitability, flashpoint, and corrosiveness), stability and reactivity, toxicology and handling and storage precautions should be closely reviewed. These elements of the SDS should provide the user with the basic knowledge and information needed for properly and safely storing and handling hazardous materials.

When classifying hazardous materials for storage, the first consideration should be to store them based on their compatibility, not randomly or in alphabetical order. Generally, chemicals of the same hazard characteristic are typically stored together (i.e. flammables with flammables {gasoline – drip torch fuel} and oxidizers with oxidizers {"ping pong balls" – ammonium nitrate fertilizer}, and incompatibles such as flammables and oxidizers must be segregated.

Incompatible materials must not be stored such that they may come in contact with each other. If incompatible materials are allowed to mix, dangerous conditions will result. Combining these materials may result in the following: increased heat or pressure; fire or explosion; violent reaction; toxic dusts, mists, vapors, or gases; and flammable vapors or gases. The specific SDS should always be consulted when doubts arise concerning chemical properties and associated hazards.

Segregation of Hazardous Materials Families

Upon reviewing the information provided in the SDS, the material should be first classified into a primary segregation category based upon compatibility hazard characteristics. Materials within each major classification can also be classified for storage within subcategories (also known as secondary segregation). The following hazard classes used for primary segregation pertain to items typically used in the USDA Forest Service:

- ***Flammable and Combustible Chemicals:*** Flammable items post a serious threat of fire if stored improperly. Many of these items indicate "Do not store near heat" or "Keep in cool, dry place." US DOT is responsible for determining what constitutes a flammable material, and has offered the following definitions for ignitable chemicals:

  Flammable Liquid (Class II Combustible) - Any liquid with a flash point greater than or equal to or 100°F (37.8°C) C and less than or equal to 140°F (60°). Common examples used in the Forest Service include: gasoline and drip torch fuel.

  Flammable Liquid (Class IIIA Combustible) - Any liquid with a flash point greater than 140°F (60°C) and below 200°F (93.3°C), and does not meet the definition of any other hazard class. Common examples used in Forest Service include: motor oils and bar/chain oil.

  Flammable Liquid (Class IIIB Combustible) – Any liquid with a flash point great than 200°F (93.3°C).

  Flammable Gas - A compressed gas that satisfies the criteria for flame projection, lower flammability limit and flammability range. A common example used in the Forest Service is propane (also known as liquefied petroleum gas or LPG).

  Flammable Solid - A non-explosive material that is capable of producing fire as a result of friction, heat retained from production or which, if ignited, produces a serious transportation hazard (a common example used in the Forest Service are fusees).

  The ***flash point*** of a liquid is the lowest temperature at which the liquid can vaporize in sufficient concentration to form an ignitable mixture in air. Within the flammability category, flammable liquids (e.g. gasoline), flammable solids (e.g. fusees), and flammable gases (e.g. propane) are further subcategorized when storing (secondary segregation), as these materials if stored together could act as an accelerant to one another if an incident were to occur.

- ***Corrosive Materials (acids/bases)*:** Corrosive materials can dissolve or wear away a container. Also, most of the chemicals that are corrosive to containers are potentially dangerous to the skin and eyes of humans and animals. A few common corrosives include metal cleaners with phosphoric acid,

drain cleaners that contain sulfuric acid (battery acid), rust removers with hydrofluoric acid, and drain cleaners containing sodium hydroxide or lye.

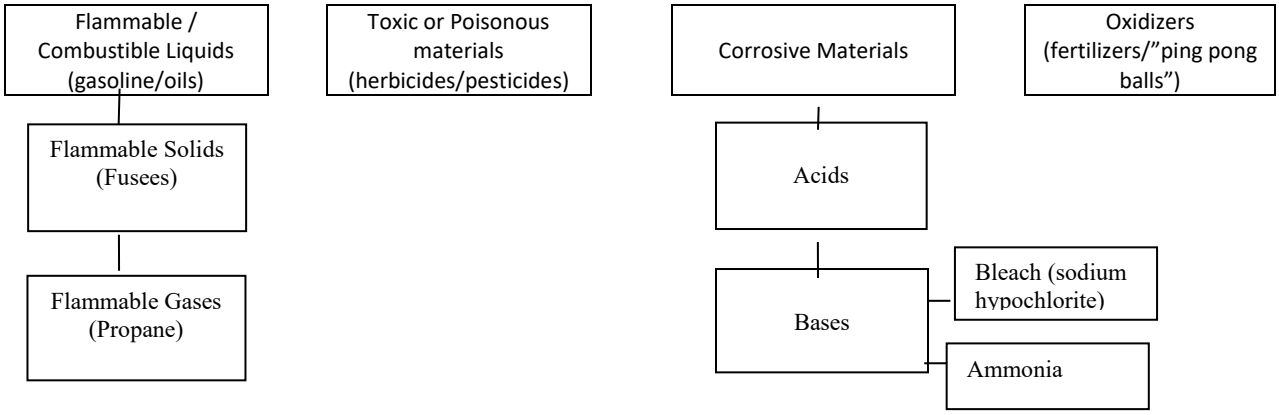
Within the corrosive classification, acids (pH <7) and bases (pH >7) are further subcategorized for storage (secondary segregation), as these materials can become reactive with one another. An example is mixing bleach (a base) with muriatic acid (more commonly known as hydrochloric acid), which will release toxic chlorine gas. Mixing muriatic acid and potassium permanganate (contents of "ping pong balls", an oxidizer) will also be reactive and release toxic chlorine gas. Even within the same pH category, exceptions to this rule can exist and require further segregation. An example is the incompatibility of bleach (a strong base) and ammonia (a weak base), both of which are commonly used cleaning solutions. Although they are both bases, the mixing of aqueous ammonia with bleach is exceedingly dangerous and produces a toxic and carcinogenic mixture of chloramine and hydrazine.

- ***Toxic or Poisonous Materials -*** Toxic materials are those materials that, in sufficient quantities, pose a hazard to human health. They are sometimes identified with the symbol of skull and crossbones. Most janitorial supplies potentially contain toxic materials, from air fresheners and carpet deodorizers to mothballs, rodenticides and pesticides. Toxic materials can often be used safely if used as directed by the manufacturer. Common toxic or poisonous materials used in the USDA Forest Service include herbicides, insecticides, fungicides, fumigants, and rodenticides.

- ***Oxidizing Materials (Oxidizers):*** Oxidizers are compounds which are capable of reacting with and oxidizing (i.e., giving off oxygen) other materials. A well-known example of oxidation is the process of corrosion, where metal reacts with air to form metal oxides referred to as "rust". The primary hazard associated with this class of compounds lies in their ability to act as an oxygen source, and thus to readily stimulate the combustion of organic materials. Common oxidizers used in the USDA Forest Service include ammonium nitrate fertilizer, and potassium permanganate ("ping pong balls"). Oxidizers are highly incompatible with flammable materials. Oxidizing chemical products often end in *-ite*, *-ate*, or *-ide.*
- ***Other Chemical Families***: Compressed gasses, cryogens, pyrophorics, water reactives and explosives are other common hazardous chemical families.

One problem with the implementation of the segregation system based on hazard classification is that many chemicals have multiple hazards as they belong to more than once chemical family or hazard class. For example, some chemicals may be both corrosive acids and combustible liquids. In such cases, the chemical must be stored away from both corrosive bases and oxidizing acids.

When establishing a storage scheme, the number one consideration should be the **flammability** characteristics of the chemicals. If a chemical is flammable, it should be stored in a flammable liquids storage cabinet. If a chemical will contribute significantly to a fire (e.g. oxidizers), it should be isolated from all flammable chemicals. In the event of a fire involving a water-reactive chemical in which response with water would exaggerate the situation, isolate the water-reactive chemical from contact with water, steam or moisture. Next look at the **corrosivity** of the material, and store accordingly. Finally, consider the **toxicity** of the material, with particular attention paid to regulated materials. In some cases, this may mean that certain chemicals will be isolated within a storage area. For example, a material that is an extreme poison but is also flammable, should be locked away in the flammable storage area to protect it against accidental release. There will always be some chemicals that will not fit neatly in one category or another, but with careful consideration of the hazards involved, most of these cases can be handled in a reasonable fashion.
The chart below provides a visual diagram of primary and secondary segregation control areas.



In general, incompatibles are stored in control areas that are separated by a physical means of at least 20 feet or by a 1-hour firewall (example - flammables and oxidizers), and in some cases a minimum of a 4-foot aisle way between secondary segregation areas (example – flammable liquids, solids, and gases). Relative to indoor storage, no more than four segregated control areas should be allowed for each structure. Some materials, such as flammable and combustible liquids, have further requirements for storage; see 2.3 (Storage Requirements) below for further discussion.
Section III of the USDA Everyday Hazmat User's Training Guide is an excellent resource and should also be consulted in assistance with the classification of a unit's hazardous materials prior to storage.

2.2 PRODUCT TYPES/NAMES

OSHA has updated hazardous material labeling requirements under its Hazard Communication Standard (HCS), bringing it into alignment with the United Nations' Globally Harmonized System of Classification and Labelling of Chemicals (GHS). **Taking effect on June 1, 2015, all hazardous materials <u>shipped by</u>**

<u>manufactures</u> must be labeled according to the GHS, which requires labels to contain the following elements:

- **Name, Address and Telephone Number** of importer, manufacturer of other responsible party;

- **Product Identifier** includes, but is not limited to, chemical name, code, or batch number;

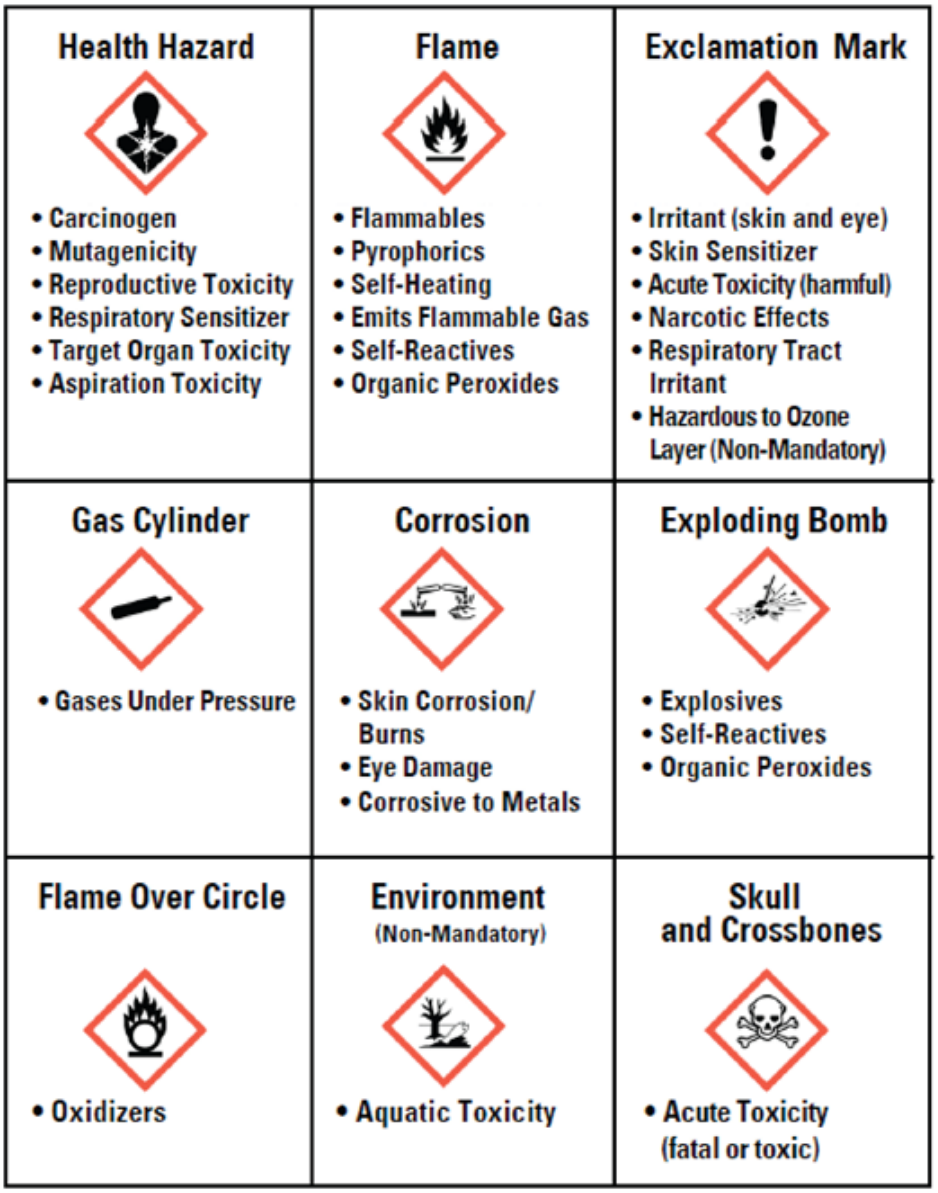
- **Signal Words** consist of only 2 possible words: "**Danger**" and "**Warning**". Danger is for more severe hazards, and Warning for less severe. Only one signal word warrants Danger while another warrants Warning, Danger should appear on the label;

- **Hazard Statements** are specific to hazard classification categories. Examples may include,
    - May cause fire or explosion - strong oxidizer
    - Causes sever skin burns and eye damage

- **Precautionary Statements** describe recommended measures to be taken to minimize or prevent adverse effects. Precautionary statements may include prevention, response, specific treatment, in case of fire, storage, and disposal. They may also include precautionary pictograms;

- **Supplemental information** (if needed) such as recommended Personal Protective Equipment (PPE); and

- **Pictograms** are red square frames set at a point and contain a hazard symbol. The GHS uses 9 pictograms. OSHA will enforce the use of 8 of these. The environmental pictogram is not mandatory, but may be used as supplementary information.



"OSHA BRIEF - Hazard Communication Standard: Labels and Pictograms"

Employers must be fully compliant with the GHS by June 1, 2016. A sample HCS label is shown below. As mentioned in section 2.1 above, the label itself may not contain enough information to the user to properly allow for classification and, therefore the SDS must be relied upon as the best source of information when classifying materials for storage.

SAMPLE LABEL

PRODUCT IDENTIFIER

CODE _____
Product Name _____

SUPPLIER IDENTIFICATION

Company Name_____
Street Address
_____
City _____ State _____
Postal Code _____ Country
_____
Emergency Phone Number _____

PRECAUTIONARY STATEMENTS

Keep container tightly closed. Store in cool, well ventilated place that is locked.
Keep away from heat/sparks/open flame. No smoking.
Only use non-sparking tools.
Use explosion-proof electrical equipment.
Take precautionary measure against static discharge.
Ground and bond container and receiving equipment.
Do not breathe vapors.
Wear Protective gloves.
Do not eat, drink or smoke when using this product.
Wash hands thoroughly after handling.
Dispose of in accordance with local, regional, national, international regulations as specified.

In Case of Fire: use dry chemical (BC) or Carbon dioxide (CO_2) fire extinguisher to extinguish.

First Aid
If exposed call Poison Center.
If on skin (on hair): Take off immediately any contaminated clothing.
Rinse skin with water.

HAZARD PICTOGRAMS

SIGNAL WORD

Danger

HAZARD STATEMENT

Highly flammable liquid and vapor.
May cause liver and kidney damage.

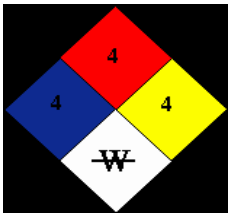
SUPPLEMENTAL INFORMATION

Directions for use
_____
_____
_____
Fill weight: _____ Lot Number
_____
Gross weight: _____ Fill Date:
_____
Expiration Date: _____

Sometimes found on labels of containers and on SDSs, two forms of hazardous materials identification that had become popular as a rapid identification system are the NFPA 704M sign (NFPA hazard diamond) and the basic HMIS® hazard warning label. The following sections describe NFPA and HMIS, neither of which fully conform to the GHS labelling system but will continue to be encountered for years and possibly decades on chemical containers. Until December 1, 2015, distributors may continue to ship containers labelled by manufactures or importers (but not by the distributor themselves) in compliance with the Hazard Communications Standard of 1994 (HazCom 1994).

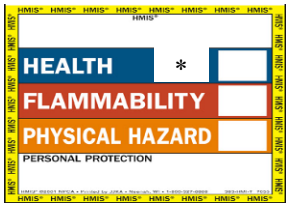
NFPA

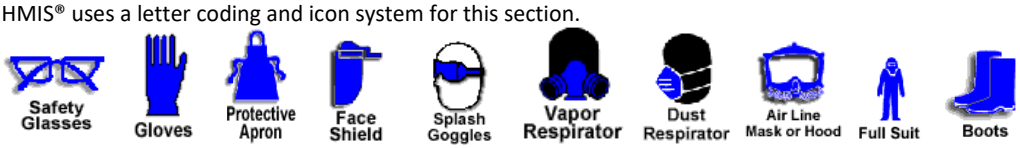
The National Fire Protection Association (NFPA) is a voluntary standard setting organization that has addressed hazard recognition through labeling. The NFPA label is diamond-shaped, with four color-coded quadrants, and contains numbers and special symbols to denote degrees of hazards.

Color Codes Blue = health hazard Red = fire hazard Yellow = reactivity hazard White = other hazard information	 **NFPA "Diamond"**	**Numbers (degree of hazardous):** 4 = extreme hazard 3 = serious hazard 2 = moderate hazard 1 = slight hazard 0 = no or minimal hazard
Special Symbols W = reactive to water SA = simple asphyxiant OX = oxidizer Acid = corrosive with pH lower than 7.0 ALK = corrosive with pH higher than 7.0 COR = corrosive (either acid or base)		= symbol for corrosive = symbol for poison or highly toxic = symbol for radioactivity = symbol for explosive

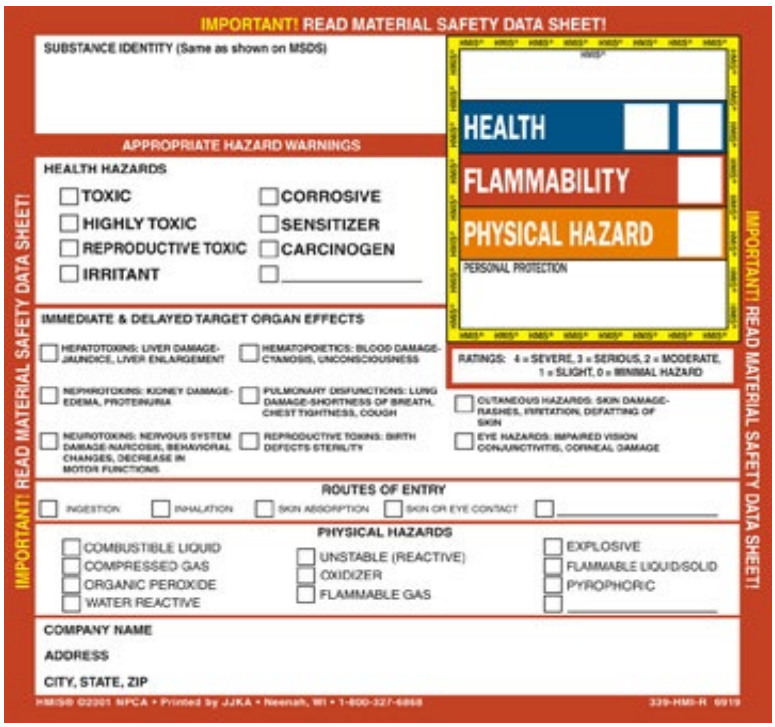
HMIS®

The Hazardous Materials Identification System (HMIS®) was developed by the National Paint & Coatings Association (NPCA), now known as the American Coatings Association, to help employers comply with OSHA's HazCom 1994 (29 CFR 1910.1200), prior to the updated revision HazCom 2012. HMIS® utilizes colored bars, numbers and symbols to convey the hazards of materials used in the workplace. At first glance, the HMIS® and NFPA labeling systems appear quite similar. Both have four sections colored blue, red, yellow and white. HMIS® uses colored bars, while NFPA uses colored diamonds. HMIS® attempts to convey full health warning information to all employees, while NFPA is meant primarily for fire fighters and other emergency responders. Do not confuse HMIS® labels (colored bars) with NFPA labels (colored diamonds). The two systems are similar, but **not** identical. The HMIS® has gone through three versions, known as HMIS® I, II, and III. The newest version, which has integrated more OSHA elements, is HMIS® III, and is described below.



Health (blue) According to NPCA, the numeric hazard assessment procedure is different than that used by NFPA.	**4** Life-threatening, major or permanent damage may result from single or repeated overexposures **3** Major injury likely unless prompt action is taken and medical treatment is given **2** Temporary or minor injury may occur **1** Irritation or minor reversible injury possible **0** No significant risk to health ***** In the latest version of HMIS®, the blue Health bar has two spaces, one for an asterisk and one for a numeric hazard rating. If present, the asterisk signifies a chronic health hazard, meaning that long-term exposure to the material could cause a health problem such as emphysema or kidney damage.
Flammability (red) The flammability criteria are defined according to the OSHA standard classes.	**4** Flammable gases, or very volatile flammable liquids with flash points below 73 °F, and boiling points below 100 F. Materials may ignite spontaneously with air. (Class IA) **3** Materials capable of ignition under almost all normal temperature conditions. Includes flammable liquids with flash points below 73 °F and boiling points above 100 °F, as well as liquids with flash points between 73 °F and 100 °F. (Classes IB & IC) **2** Materials which must be moderately heated or exposed to high ambient temperatures before ignition will occur. Includes liquids having a flash point at or above 100 °F but below 200 °F. (Classes II & IIIA). **1** Materials that must be preheated before ignition will occur. Includes liquids, solids and semi solids having a flash point above 200 °F. (Class IIIB). **0** Materials that will not burn
Physical Hazard (orange) Reactivity hazards are assessed using the OSHA criterion of physical hazard - Hazard classes: Water Reactive, Organic Peroxides, Explosives, Compressed gases, Pyrophoric materials, oxidizers, and unstable reactive.	**4** Materials that are readily capable of explosive water reaction, detonation or explosive decomposition, polymerization, or self-reaction at normal temperature and pressure. **3** Materials that may form explosive mixtures with water and are capable of detonation or explosive reaction in the presence of a strong initiating source. Materials may polymerize, decompose, self-react, or undergo other chemical change at normal temperature and pressure with moderate risk of explosion. **2** Materials that are unstable and may undergo violent chemical changes at normal temperature and pressure with low risk for explosion. Materials may react violently with water or form peroxides upon exposure to air **1** Materials that are normally stable but can become unstable (self-react) at high temperatures and pressures. Materials may react non-violently with water or undergo hazardous polymerization in the absence of inhibitors **0** Materials that are normally stable, even under fire conditions, and will **not** react with water, polymerize, decompose, condense, or self-react. Non-explosives.
Personal Protection (white) In the NFPA system, the white area is used to convey special hazards whereas HMIS® uses the white section to indicate what personal protective equipment (PPE) should be used when working with the material.	HMIS® uses a letter coding and icon system for this section.  **A** safety glasses **B** safety glasses, gloves **C** safety glasses, gloves, protective apron **D** face shield**,** gloves, protective apron **E** safety glasses, gloves, dust respirator **F** safety glasses, gloves, protective apron, dust respirator **G** safety glasses, gloves, vapor respirator **H** splash goggles, gloves, protective apron, vapor respirator **I** safety glasses, gloves, dust respirator, vapor respirator **J** splash goggles, gloves, protective apron, vapor respirator, dust respirator **K** airline mask or hood, gloves, full suit, boots **L through Z s**ite specific label (ask supervisor or safety specialist for handling instructions) *In most instances, in order to avoid confusion with the lettering system, it is recommended that if utilize by the USDA Forest Service that the personal protective section be completed by simply spelling out the protective equipment needed on the label.

As previously mentioned, the NFPA diamond and the HMIS® bars do not fully satisfy the OSHA labeling requirements. For example, a number “4” category for health on a NFPA label tells you nothing about how to protect yourself with respect to inhalation, absorption, or digestion hazards. HMIS® labels also come available with additional information that meets the OSHA labeling requirements.


IMPORTANT! READ MATERIAL SAFETY DATA SHEET!

SUBSTANCE IDENTITY (Same as shown on MSDS)

HMIS® HEALTH
HMIS® FLAMMABILITY
HMIS® PHYSICAL HAZARD
PERSONAL PROTECTION

APPROPRIATE HAZARD WARNINGS

HEALTH HAZARDS
- TOXIC
- HIGHLY TOXIC
- REPRODUCTIVE TOXIC
- IRRITANT
- CORROSIVE
- SENSITIZER
- CARCINOGEN
- _____

IMMEDIATE & DELAYED TARGET ORGAN EFFECTS
- HEPATOTOXINS: LIVER DAMAGE-JAUNDICE, LIVER ENLARGEMENT
- HEMATOPOIETICS: BLOOD DAMAGE-CYANOSIS, UNCONSCIOUSNESS
- NEPHROTOXINS: KIDNEY DAMAGE-EDEMA, PROTEINURIA
- PULMONARY DISFUNCTIONS: LUNG DAMAGE-SHORTNESS OF BREATH, CHEST TIGHTNESS, COUGH
- NEUROTOXINS: NERVOUS SYSTEM DAMAGE-NARCOSIS, BEHAVIORAL CHANGES, DECREASE IN MOTOR FUNCTIONS
- REPRODUCTIVE TOXINS: BIRTH DEFECTS-STERILITY
- CUTANEOUS HAZARDS: SKIN DAMAGE-RASHES, IRRITATION, DEFATTING OF SKIN
- EYE HAZARDS: IMPAIRED VISION CONJUNCTIVITIS, CORNEAL DAMAGE

RATINGS: 4 = SEVERE, 3 = SERIOUS, 2 = MODERATE, 1 = SLIGHT, 0 = MINIMAL HAZARD

ROUTES OF ENTRY
- INGESTION
- INHALATION
- SKIN ABSORPTION
- SKIN OR EYE CONTACT
- _____

PHYSICAL HAZARDS
- COMBUSTIBLE LIQUID
- COMPRESSED GAS
- ORGANIC PEROXIDE
- WATER REACTIVE
- UNSTABLE (REACTIVE)
- OXIDIZER
- FLAMMABLE GAS
- EXPLOSIVE
- FLAMMABLE LIQUID/SOLID
- PYROPHORIC
- _____

COMPANY NAME
ADDRESS
CITY, STATE, ZIP

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IMPORTANT! READ MATERIAL SAFETY DATA SHEET!

IMPORTANT! READ MATERIAL SAFETY DATA SHEET!

Inventory

Other than ensuring all hazardous materials are properly labeled and all SDSs are available, a hazardous material inventory must be maintained and must be readily accessible to all employees. The Office of Inspector General (OIG) has recommended the development and implementation of Department-wide policies and procedures to ensure hazardous material inventories are conducted and all department agencies compile a secure, comprehensive inventory of chemicals. OIG further recommended that these inventories be completed quarterly and reported to the department at least annually. As a result, USDA has required its agencies to complete a quarterly inventory and certification report of all hazardous materials by the 15th of the month following the end of each quarter. The unit's hazardous materials coordinator should ensure that inventories are kept up-to-date with this policy. Each unit's hazardous materials inventory is maintained in Appendix A of their Hazardous Communications Plan.

2.3 STORAGE REQUIREMENTS

Many of the storage requirements presently recommended have been learned through experience and incorporated from codes and regulations. Others are more in the form of recommended practices. Storage guidelines are included for materials that are flammable, oxidizers, corrosives, and highly toxic (items which would more commonly be found in use with the USDA Forest Service). Always review the SDS, and / or consult with an expert when in doubt about proper segregation and storage.

Additional information for storage of hazardous materials can be found in the USDA Everyday Hazmat User's Guide, Section III (Hazardous Materials Management), pages 37 – 101.

GENERAL

The following are some general rules that must be practice with respect to safe hazardous materials storage:

- The quantities of materials that are stored should be minimized, as specified by NFPA 45 and OSHA. Many authorities recommend that the NFPA guidelines for maximum quantities and sizes of containers should be reduced to one-half or even one-third of the recommended values.
- Hazardous substances should be stored in an orderly manner with older products most accessible (so they will be used and depleted first) and the newer products least accessible.
- Good housekeeping must be practiced in areas where hazardous products are stored.
- All hazardous materials must be properly labeled including their exact contents, hazardous properties (routes of exposure, target organs, and personnel protective equipment), manufacturer of the product, date of receipt, and if appropriate, date of expiration.
- Hazardous substances should be stored in original containers in which they were packaged at the manufacturing plant. If this is not practical, these products should be transferred according to manufacturers' recommendations into containers that are constructed to withstand the effects of the product over the maximum storage time.
- Materials must be stored at an appropriate temperature and humidity level. This can be especially problematic in hot, humid climates. As a rule, chemicals should not be stored near heat sources, such as steam pipes. Chemicals should **never** be stored in direct sunlight.
- Visual inspection of the material and its container should be conducted routinely. Indications for disposal include: cloudiness in liquids, material changing color, evidence of liquids in solids or solids in liquids, "puddling" of material around outside of container, pressure build-up within bottle, and obvious deterioration of container.
- Incompatible materials must **not** be stored in a manner for which they may come in contact with each other (a minimum of 20 feet between control areas {or 1-hr. firewall} and maximum of 4 control areas per building).

Flammable Liquids

To prevent fires, hazardous liquids need special precautions taken for their storage, handling and use. NFPA and the International Code Council (ICC) have developed guidelines for the safe storage and use of flammable and combustible liquids under the Uniform Fire Code (UFC). These guidelines are not mandatory unless a federal, state or local authority chooses to use them.

Mandatory regulations have been developed, however, by OSHA. They have specified safe handling practices under three separate mandatory regulations for: General Industry (29 CFR 1910.106), Construction Industry (29 CFR 1926.152), and Shipyard Industry (29 CFR 1915.36).
For the purpose of this document, only the requirements of the General Industry will be discussed.

Defining Flammable and Combustible Liquids

To understand OSHA requirements for the safe storage of flammable and combustible liquids, we must begin by defining the two. The flashpoint and boiling point determine the class of a liquid.

Category	Criteria
1	Flashpoint < 23 °C and initial boiling point ≤ 35 °C
2	Flashpoint < 23 °C and initial boiling point > 35 °C
3	Flashpoint ≥ 23 °C and ≤ 60 °C
4	Flashpoint > 60 °C and ≤ 93.3 °C

A ***flammable liquid*** is any liquid having a flashpoint below 100 °F (37.8 °C) (except any mixture having components with flashpoints of 100°F (37.8°C) or higher, the total of which make up 99 percent or more of the mixture). Flammable liquids are categorized into three groups, as follows:

- ***Class IA Flammable Liquid:*** Liquids having flashpoints below 73 °F (23 °C) and having boiling points below 100°F (37.8°C) Examples: ethyl ether, ethylene oxide, some light crude oils.
- ***Class IB Flammable Liquid:*** Liquids having flashpoints below 73 °F (23 °C) and having boiling points at or above 100° F (37.8°C). Examples: motor and aviation gasoline, toluene, lacquers, lacquer thinner.
- ***Class IC Flammable Liquid:*** Liquids having flashpoints at or above 73 °F (23 °C) and below 100° F (37.8°C). Examples: xylene, some paints, some solvent-based cements, and turpentine.

A ***combustible liquid*** is any liquid having a flashpoint at or above 100 °F (37.8 °C). Combustible liquids are divided into two classes:

- ***Class II Combustible Liquid:*** Liquids having flashpoints at or above 100 °F (37.8 °C) and below 140 °F (60 °C), except any mixture having components with flashpoints of 200 °F (93.3 °C) or higher, the volume of which make up 99 percent or more of the total volume of the mixture (1910.106(a)(18)(i)). Examples: diesel fuel, paint thinner, Stoddard solvent.
- ***Class III Combustible Liquid:*** Liquids having flashpoints at or above 140 °F (60 °C). Class III liquids are subdivided into two subclasses:
    - ***Class IIIA Combustible Liquid:*** Liquids having flashpoints at or above 140°F (60°C) and below 200°F, except any mixture having components with flashpoints of 200 °F (93.3 °C) or higher, the total volume of which make up 99 percent or more of the total volume of the mixture. Examples: home heating oil.
    - ***Class IIIB Combustible Liquid:*** Liquids having flashpoints equal to or greater than 200 °F (93.3 °C). Examples: cooking oils, lubricating oils, motor oils.

Flammable and Combustible Liquids – Safety Cans

One technique to reduce the hazards associated with flammable and combustible liquids is the use of safety cans. OSHA defines a safety can as: "An approved container, of not more than 5 gallons capacity, having a spring-closing lid and spout cover and so designed that it will safely relieve internal pressure when subjected to fire exposure".

This definition allows a wide variety of containers to be considered safety cans. However, many local laws and insurance carriers require safety cans to be Underwriter Laboratory (UL) approved. OSHA also recognizes UL.

In addition, OSHA limits the amount of liquid in a single safety can. The following chart shows the allowable amounts for each class of liquid.

Maximum Allowable Size of Containers and Metal Portable Tanks

	Flammable Liquids		***Combustible Liquids***		
Container Type	***Class IA***	***Class IB***	***Class IC***	***Class II***	***Class III***
Glass or approved plastic	1 pint	1 quart	1 gallon	1 gallon	1 gallon
Metal (other than DOT drums)	1 gallon	5 gallon	5 gallon	5 gallon	5 gallon
Safety Cans	2 gallon	5 gallon	5 gallon	5 gallon	5 gallon
Metal Drum (DOT spec.)	60 gallon	60 gallon	60 gallon	60 gallon	60 gallon
Approved Metal Portable Tanks	660 gallon	660 gallon	660 gallon	660 gallon	660 gallon

OSHA also limits the total amount of a liquid kept **outside** of a safety cabinet or storage room. The quantity of liquid that may be stored **outside** of an inside storage room or flammable liquid storage cabinets in any one fire area of a building cannot exceed:

- 25 gallons of Class IA liquids in containers

- 120 gallons of Class IB, IC, II or III liquids in containers
- 660 gallons of Class IB, IC, II or III liquids in a single portable tank

The amount of liquid storage and location of cabinets is also regulated by OSHA. Regulations state "Not more than 60 gallons of Class I or Class II liquids, nor more than 120 gallons of Class III liquids may be stored in a storage cabinet." Also, according to NFPA 304.3.2, not more than three (3) such cabinets may be located in a single fire area.

Flammable and Combustible Liquids – Storage Cabinets

Another fundamental means of fire protection is the use of flammable storage cabinets. NFPA, OSHA, and UFC require flammable cabinets to be designed and constructed to specific requirements. OSHA regulations state that metal cabinet shall be constructed in the following manner:

- Bottom, top and sides of cabinet shall be at least No. 18 gage sheet steel
- Cabinet must be doubled walled with 1½" airspace
- Joints shall be riveted, welded or made tight by some equally effective means
- Door shall have a three-point latch
- Door sill shall be raised at least 2" above the cabinet bottom to retain spilled liquid within the cabinet
- Cabinet shall have a "FLAMMABLE—KEEP FIRE AWAY" legend

In addition to the requirements listed above, the UFC also requires self-closing doors. Most local authorities use one or more of these standards as a foundation for establishing local codes.

Flammable Solids (Fusees)

Fusees (also known flares) should not be stored with flammable liquids. These two together could act as an accelerant thus potentially defeating the design of a flammable liquids cabinet which is intended to protect from fire for 10 minutes to allow for safe evacuation. Flammable solids should be segregated from flammable and combustible liquids, with a minimum of a 4 foot aisle space. They should be stored in a cool dry place within a sound cabinet or on sound shelving. No more than 100 pounds of flammable solids should be kept onsite (>100 lbs. may exceed local fire code requirements). Other important requirements include: floors in the storage area should be noncombustible, shelves should be noncombustible, materials labeled as a flammable solid, and a sign indicating flammable and "no smoking" in the control area.

Flammable Gases (Portable Propane - stored for use)

Propane cylinders must not be stored with flammable liquids. Propane is not a flammable liquid, it is a flammable liquefied gas. This difference is very important and the reason that the two must not be stored improperly. A flammable liquids storage cabinet is designed to protect flammable liquid containers from fire for 10 minutes to allow for safe evacuation. Propane storage is severely restricted in buildings because of its rapid evolution of gas from leaking containers, which is in orders of magnitude greater than the evolution of flammable vapors from flammable liquids. NFPA limits the storage of propane in buildings: 1) buildings frequented by the public are limited to cylinders with a propane capacity of 1 pound and the total quantity stored is limited to 200 pounds of propane and 2) buildings not frequented by the public are limited to a maximum quantity of 300 pounds of propane (the cylinder size is not restricted). Storage of propane containers indoors is not recommended, it is therefore USDA Forest Service's position to keep propane stored outdoors.

The following storage requirements for propane must be followed:

- Cylinders must be stored in well-vented enclosure or rack that is secured (lockable).
- Consumer-type propane cylinders (type typically used in the Forest Service) must be stored upright (vertically).
- No smoking and danger flammable gas signs must be placed on the storage area.
- Storage should be in a manner that minimizes exposure to the excessive temperatures and physical damage, stored in a location that would prevent damage by vehicles.
- The storage container must be at least 20 feet from any doorway or building opening, and can be stored next to a building provided that the storage area contains 500 lbs or less of propane.
- Flammable materials and combustible materials such as weeds or wood must be removed within 10 feet of the propane storage enclosure.
- No smoking, no open flames, no welding, or no sources of ignition should be enforced within 20 feet of the storage area.
- Cap all valves when storing.
- Empty containers should always be treated as though they were full.

Corrosives (Acids and Bases)

Corrosives used in the USDA Forest Service most typically pertain to cleaning products and batteries. Corrosives can be stored outdoors or indoors; however, it is highly recommended that they be stored indoors whenever possible to prevent degradation to the quality of the product and its container. Control areas can be in offices, basements, or garages.

As previously discussed in Section 2.1 above, corrosives are further subcategorized into acid and base control areas. However, as also previously discussed above, the SDS must be given close attention as incompatibilities may exist even within a secondarily segregated control area (example - ammonia and bleach, both are bases, but can be dangerously reactive if mixed).

It should be noted that aqueous liquids, especially those with a <2 or >12.5 pH, are capable of corroding steel very rapidly. The fumes of these corrosives in the presence of humidity will also condense predominately on metal surfaces. When the water evaporates, you are left with a very corrosive residue. Therefore, it is recommended that shelving for storing of corrosives to be construction of a polyethylene material (when possible), which is impervious to the detrimental effects of harsh acids and other corrosive chemicals. Wood cabinets with a laminate finish also work well for chemical durability. Long-lasting wood core construction provides exceptional strength, and stainless steel handles and hinges resist the corrosive effects of harsh acids and bases.

The following storage requirements for corrosives must be followed:

- Each control area should have a “corrosive” hazard identification and “no smoking” sign;
- All products must have a corrosive label;
- All containers must to stored sound with tight lids; and
- Store no more than a total 5,000 lbs. of a solid corrosive or no more than a total of 500 gallons of a liquid corrosive per control area.

Oxidizers

Oxidizers used in the USDA Forest Service typically include ammonium nitrate fertilizer and potassium permanganate “ping pong balls”.

Oxidizers may be grouped into 4 classes based on their ability to affect the burning rate of combustible materials or undergo self-sustained decomposition. This classification system was established by the NFPA as a means to provide information on safe storage of oxidizing materials. These materials are classified according to the following guidelines shown in below.

NFPA Classification System for Oxidizing Materials	
Class Rating	**Hazard Description**
Class 1	An oxidizing material whose primary hazard is that it may increase the burning rate of combustible material with which it comes in contact. (ammonium nitrate fertilizer is an example)
Class 2	An oxidizing material that will moderately increase the burning rate or which may cause spontaneous ignition of combustible material with which it comes in contact. (“ping pong balls” is an example)

Class 3	An oxidizing material that will cause a severe increase in the burning rate of combustible material with which it comes in contact or which will undergo vigorous self-sustained decomposition when catalyzed or exposed to heat. (calcium hypochlorite >50% wgt. is an example)
Class 4	An oxidizing material that can undergo an explosive reaction when catalyzed or exposed to heat, shock or friction. (ammonium perchlorate is an example)

The primary consideration in the storage of these materials is that they must be isolated from all flammable or combustible materials (a minimum of at least 20 feet). Small quantities (total of less than 200 pounds) of Class 1, 2 or 3 oxidizers can be stored. Stringent storage requirements are levied against Class 4 oxidizers in quantities greater in 10 pounds (combined, all Class 4 materials). These materials may not be stored, for quantities above 10 pounds within a building. However, it must be noted that the local fire marshal may require permits for smaller quantity thresholds than those suggested by the NFPA.

Corrosives can be stored outdoors or indoors; however, it is highly recommended that they be stored indoors whenever possible to prevent degradation to the quality of the product and its container. Storage can be in offices, basements, and garages.

The following storage requirements for corrosives must be followed:

- Stored on non-combustible shelving and liquid tight floors;
- All products labeled with an oxidizer label;
- Each control area labeled with an “oxidizer” hazard identification and “no smoking” sign; and
- All containers must to stored sound with tight lids.

<u>Toxic or Poisonous Materials</u>

Toxic or poisonous materials used in the USDA Forest Service include: insecticides, herbicides, fungicides, and repellents. Storage of such items can be highly variable depending on the specific ingredients of the material. The SDS should always be review to determine proper storage requirements, as well as proper application and personal protective measures. Pages 72 through 79 of the USDA Everyday Hazmat User’s Training Guide provide further information on storage of toxic and poisonous materials.

2.4 SPILL RESPONSE

Each unit should have a separate Hazardous Materials Spill Response Plan in place. The plan should provide step-by-step actions to take in the event of a hazardous materials spill, including: information gathering and reporting, establishing who is in charge, knowing who to contact, and which governmental agencies to whom the incident must be reported.

HAZARDOUS MATERIAL SPILL RESPONSE PLAN

I. GENERAL

An agency-wide Environmental Management System (EMS) was developed for the USDA Forest Service that is compliant with the ISO 14001 International Standard. The intention of the EMS is to enable the Forest Service to identify important activities, products, and services with environmental interactions, and consistently provide environmental protection measures as well as achieve objectives for environmental performance. Element 4.4.7 of the ISO standards contains requirements for the creation of a Hazardous Material Spill Response Plan. This section fulfills the hazardous spill requirements of the Element 4.4.7 of the ISO standards.

II. PURPOSE

This plan outlines procedures for emergency awareness, preparation, and response with the purpose of preventing, minimizing and/or mitigating environmental impacts. The procedures listed provide a framework for proper response to emergency situations that occur and may have environmental impacts. The Hazardous Material Spill Response Plan should be synchronized with the procedures of the Forest Service emergency plans that are created to focus on human safety and health.

III. SCOPE

This plan applies to emergency release situations that could have significant environmental impacts to resources found on the applicable administrative unit of the Forest Service. Spills or discoveries of hazardous materials are emergencies, for which employees may lessen, mitigate, or prevent undesired environmental effects by taking prompt action as described in this plan.

The procedures outlined in this plan apply to activities conducted by Forest Service employees and volunteers, working for the appropriate administrative unit. Contractors and permitees follow emergency procedures as they are identified in the contract or permit, as appropriate.

IV. ROLES, RESPONSIBILITIES, AND RESPONSE ACTIONS

Forest Service Emergency Releases

Use this section when there are emergency releases <u>associated with Forest Service operations, Incidental Users of NFS Lands, or if party responsible is unknown</u> and release is discovered.

Where the spill is associated with navigable waters or adjoining shorelines, the EPA requires facilities to report discharges of oil that may be harmful to public health or welfare or the environment. EPA has determined that discharges of oil in quantities that may be harmful include those that:

Violate applicable water quality standards; cause a film or "sheen" upon or discoloration of the surface of the water or adjoining shorelines; or cause a sludge or emulsion to be deposited beneath the surface of the water or upon adjoining shorelines.

<u>Forest Supervisor</u> – In addition to the responsibilities delegated in FSM 7443, the Forest Supervisor shall:

- Designate a Hazmat Coordinator per FSM 2160.43.
- Provide dispatch capabilities through the MACC Center Manager.
- Provide direction as needed.

ALLEGHENY NATIONAL FOREST
EMERGENCY HAZARDOUS MATERIALS ACCIDENT/INCIDENT RESPONSE PLAN

The Allegheny National Forest will respond to all instances using the guidelines established within the Emergency Response Plan for Hazardous Materials Accidents/Incidents (attached to this plan) and Interim Directive 6709.11-2010-4 to FSH 6709.11, Chapter 60. "Responses to these situations should be limited to collecting as much information as possible from a safe distance and to notifying the appropriate Environmental Protection Agency, State, and local emergency response authorities."

CAUTION: When confronted with hazardous material (substance) response situations, ANF employees are not expected to perform work to handle and control actual or potential leaks or spills outside their normal scope of work and requiring possible close approach to the substance which exceeds their qualifications and protective measure's capabilities. In the event any employee or volunteer observes a release of petroleum products in excess of 42 gallons on dry land, or any other hazardous, (or possibly hazardous), material in any quantity he/she must report the observation immediately to the following Emergency Contacts: ***Immediately*** Contact 911. Use the following Alert and Notification Steps and Response Plan for all spills:

HAZARDOUS MATERIALS ALERT AND NOTIFICATION STEPS
WARNING: **DO NOT APPROACH.** If you are not sure of the hazards of the substance released, do not attempt containment or identification. **DO NOT** contact the substance in any way. **Stay upwind**, and **Stay away** until the HAZMAT has been positively identified. Mark boundaries and block entry without endangering yourself in order to secure the site. **Safety is the #1 priority.**
NOTE: ALL NUMBERS ARE 814 AREA CODE UNLESS OTHERWISE SHOWN **1. FIRST-ON SCENE PERSONNEL** ____Site Safety – Situational Awareness. Follow the WARNING above. ____Secure site from non-trained personnel. ____**Call 911** and **PA-MACC** by phone or radio and provide them with location and what hazardous material is involved. **PA-MACC:** (717) 980-3230 _____Call front desk when PA-MACC is unavailable **Bradford:** (814) 363-6000 **Marienville**: (814) 927-5700 **Supervisor's Office: (814)** 728-6100
2. <u>Hazmat Coordinator Notify the following:</u> **ANF HAZMAT Response Coordinators:** ____**Hazmat Coordinator:** Erin Leet, **Bradford Office:** 363-6062, **Home:** 814-362-1671 ____**Safety:** Erin Leet, **Bradford Office:** 814-363-6062, **Home:** 814-362-1671 ____**Forest Supervisor:** Jamie Davidson, **Office**: 814-728-6299, **Cell**: 814-706-4022 ____**Deputy Forest Supervisor:** Bob Heiar, **Office:** 814-728-6239 **Cell:** 619-517-6275 ____**Public Affairs:** Chris Leeser, **Office**: 728-6281, **Cell:** 363-1611 ____**Rec/Lands/Minerals Staff Officer:** Tim Vetter, **Cell**: (715) 891-6523 ____**Engineering Staff Officer:** Bob Klasen 814-335-6806 ____**OGM Program Manager (when oil and gas involved):** Mitch Dysinger, **Office:** 814-728-6164, **Cell**: 814-688-9361

____**Eco System Staff Officer:** Josh Hanson, **Office**: 814-728-6179 **Region 9 HAZMAT Response Coordinators:** ____ **Region 9 HAZ MAT Coordinator:** Travis Haas, **Office:** (414) 297-1546 **District Rangers,** (Contact specific district Line Officer), ____**Bradford District Ranger**, Rich Hatfield, **Office:** 363-6098, **Cell** ____**Marienville District Ranger**, Daniele Gualtieri, **Office:** 927-5799, **Cell:** 814-715-2583 **Law Enforcement, Request Forest assigned LEOs as necessary by contacting:** ____**Bradford District LEO**, Steve Isch, **Office:** 363-6096, **Cell:** 414- 232-7233 ____**Marienville District LEO**, Rich Gonzales', **Office:** 814-927-5797, **Cell:** (530) 249-6881

Step 1 – Response of "First on the Scene"

Upon encountering an emergency hazardous material situation, the first one on the scene shall:

- Adhere to the following safety precautions:

PRECAUTIONS:
✓ Approach incident from an upwind, uphill, upstream direction, if possible ✓ Move and keep people away from the incident scene ✓ Do not walk into or touch any spilled material ✓ Avoid inhaling fumes, smoke, and vapors. Do not assume that gases or vapors are harmless because of lack of smell ✓ Do not smoke, and remove all ignition sources

- Call 911

- Radio or call the PA-MACC and tell them you are at the scene of a suspected emergency hazardous material incident. If radio or phone contact is not available, mark the area and relocate to notify the PA-MACC and 911.

- To prevent unauthorized access, mark the boundaries and block entry without endangering yourself in order to secure the site. Use available material to mark the site (e.g. flagging, tree-tape, survey stakes, aerosol paint)

- Perform as Incident Commander until relieved by the IC of the agency of jurisdiction.

- CLEAN UP AND REMEDIATION OF HAZARDOUS MATERIALS WILL NOT BE PERFORMED BY FOREST SERVICE PERSONNEL. Containment by placement of dikes, absorbent material or impervious materials may be attempted only when individuals have been trained and risk to agency personnel is low.

Step 2 – Response of PA-MACC

- Gather information about the incident. Contact the "First on the Scene" to verify information has been relayed.

- Contact local emergency response unit and FS Law Enforcement.
- Contact the appropriate Unit Manager, Forest Supervisor/District Ranger and Forest Hazmat Coordinator (or On-Scene Coordinator) to relay pertinent information such as, location, type of hazardous materials, name of the "First on the Scene", estimated quantity, and environmental risks posed by the spill.

- Provide appropriate response actions for directing personnel and resources, such as site location, access routes to the site, etc.

- Make required notifications.

- Provide normal dispatch services.

- Request an incident job code from the Forest Financial Officer.

Step 3 – Notification and Cleanup

Hazmat Coordinator

- Assesses the spill/release reported situation to determine appropriate spill clean-up/mitigation actions.

- Coordinates and monitors implementation of clean up and mitigation actions.

- Reports spills as appropriate to the National Response Center, state authorities, and/or the Regional HazMat Coordinator.

- When notified of such by the Forest Dispatcher or the Hazmat Coordinator of an incident, will work with the Forest PAO and the local law enforcement agencies to warn the public of a possible hazard.

- Coordinate with the Forest PAO for public announcements and news releases. Due to the sensitive nature of this subject, only the PAO will make official news releases and public announcements.

- Creates and maintains an administrative record for each hazmat emergency spill incident documenting required legal and other notifications; clean up and mitigation actions taken; and conformance with EMS hazmat incident reporting and response procedures.

    1. Upon completion of the cleanup, submit a written statement to the Forest

Supervisor/District Ranger certifying that the emergency hazmat spill/release has been cleaned up and mitigation measures implemented.

2. If warranted, completes a Corrective Action Request Form in accordance with 4.5.3procedures, documenting any identified non-conformance with EMS procedures, needed changes to EMS hazmat incident reporting and response procedures, problems with implementation of clean up or mitigation measures.

3. Annually, the Forest Hazmat Coordinator will review hazmat emergency response incidents over the preceding year to determine applicability and effectiveness of the spill response procedures. Following the annual review, the Forest Hazmat Coordinator shall make recommended changes or additions to procedures, if any, are provided for management review.

Forest Safety Officer

- Provide support to the Hazmat Coordinator.
- Monitor the safety of all Forest employees involved in the incident.

Public Affairs Officer (PAO) – Due to the sensitive nature of hazardous spills, the PAO will provide official news releases and public announcements.

District Ranger

- When notified of such by the Forest Dispatcher or the Hazmat Coordinator of an incident, will work with the Forest PAO and the local law enforcement agencies to warn the public of a possible hazard.
- Furnish district resources to assist/advise in emergency response and subsequent clean up and remediation.
- Coordinate with the Forest PAO for public announcements and news releases. Due to the sensitive nature of this subject, only the PAO will make official news releases and public announcements.

Contractor and Permit User Spills

Use this section if an emergency spill of hazardous material is associated with or results from Contractor/Permitted User operations (or any other Holder of Written Authorization to Use or Occupy NFS Lands).

Step 1: First Responder contacts 911 and the PA-MACC using the appropriate contact numbers listed above.

Step 2: The PA-MACC contacts the local emergency response unit, FS Law Enforcement, Forest Hazmat Coordinator, Contract or Permit Administrator, and the Unit Manager.

Step 3: Since the spill is associated with a contractor/permitee operation, it is their responsibility to report the spill to the State, conduct an assessment, and complete cleanup. To document that these requirements have been completed by the contractor/permitee the project administrator will:

- Document containment and cleanup activities in accordance with contract/permit/other written authorization provisions and requirements. Documentation will be completed on the appropriate project inspection/administrative forms.

- Initiate and maintain an administrative record for each hazmat emergency spill incident. Contract/permit/other shall provide documentation of required legal and other notifications; clean up and mitigation actions taken.

Incidental Releases

Use this section for a response to Incidental Releases from a Forest Service Facility or Operations

In the event of an incidental release of a hazardous material or a discharge of oil from a Forest Service facility where the chemical or oil can be absorbed, neutralized, or otherwise controlled at the time of release by employees in the immediate area or by maintenance personnel without risking by exposure employees' health or safety, the following actions are required:

- All containment, cleanup, and disposal shall be in accordance with Section VII – Spill and Disposal Procedures or the Accidental Release Measures in the chemical's SDS.

- All personal protective equipment outlined in the SDS shall be worn during handling, cleaning, and disposal.

Spill/Discovery Training:

All field-going employees will be trained in appropriate responses to encountering hazardous materials and spills.

Non-emergency spills and Releases: When there is the potential for employee exposure to hazardous substances under non-emergency releases of hazardous substances, training under 29 CFR 1910.1200 (Hazard Communication) is applicable. If a spill is of a small quantity that can be cleaned up easily without endangering yourself or the environment, and the material safety data sheet does not require any special clean up or disposal methods, then the spill may be cleaned up.

Emergency Spills and Releases: Emergency spills, releases, and leaks of a hazardous material can exist when the chemical and/or its hazards are unknown. Anytime a spill or release is encountered that poses the potential for harm to people or the environment, you should treat it as an emergency. Simply put, if it does not meet the definition of a non-emergency spill or release as mentioned in paragraph V. above, you must treat it as an emergency release. Emergency spills and releases from any source and any subsequent action to stop the spill and/or to clean up the spill are to be handled by personnel trained in hazardous material clean up. Forest Service employees are not trained in hazardous material emergency response and shall not engage in stopping or cleaning up any emergency hazardous material release. When a spill or release requires an emergency response, the person detecting the spill or release must call 911 for an emergency response and sound a general alarm to notify individuals in the area of the danger. Forest Service employees should leave the immediate area of the spill or release heading up wind or into the wind far enough away to be protected from any potential hazards. Use the "Rule of Thumb" for distance,

which is that when you hold up your thumb at arm's length you visually place it over the spill site. If you can still see the spill site, you are too close.

2.5 TRANSPORTATION REQUIREMENTS

The Hazardous Materials Transportation Act (HMTA) of 1975 is the basic statue which regulates the transportation of hazardous materials in the United States. These regulations pertain to intrastate, interstate, and foreign commerce and applicable to transportation by pipeline, aircraft, railcar, vessel, or motor vehicle. Enforcement of the HMTA is shared by each of the following administrations under delegations from the Secretary of the Department of Transportation (DOT):

- Research and Special Programs Administration (RSPA) - Responsible for container manufacturers, re-conditioners, and re-testers and shares authority over shippers of hazardous materials.
- Federal Highway Administration (FHA) - Enforces all regulations pertaining to motor carriers.
- Federal Railroad Administration (FRA) - Enforces all regulations pertaining to rail carriers.
- Federal Aviation Administration (FAA) - Enforces all regulations pertaining to air carriers.
- Coast Guard - Enforces all regulations pertaining to shipments by waters.

It is important to note that a material can be classified as "hazardous" for transportation purposes by DOT, but may necessarily be classified as "hazardous" by other regulatory agencies such as the EPA.

DOT regulations relative to the transportation of hazardous materials can be rather complex. Various levels of regulatory requirements exist which directly correspond with the type of material, quantities, and weights of hazardous materials being transported. Generally, there are three classifications relative to the types of drivers who transport hazardous materials: 1) materials of trade hazmat driver, 2) non-commercial driver's license (CDL) required hazmat driver, and 3) CDL-required hazmat driver. It is the goal of the USDA Forest Service to keep the weights, quantities, and types of hazardous materials being transported to a minimum whenever possible, so that the driver falls into the first classification (materials of trade). This will limit any additional DOT requirements that would be necessary when dealing with the transportation of large quantities and heavier weights of hazardous materials.

Materials of Trade (MOT) Driver

Many companies routinely transport hazardous materials for support of their operations. Businesses that transport small quantities of certain hazardous materials may be exempt. This exemption is known as a Materials of Trade (MOT) provision. Check for the following concerning the products you are using:

- There should be a diamond-shaped DOT label on the packaging; if there is no DOT label, then the product is not considered hazardous and doesn't have to be listed (however, the SDS and/or shipping papers must always be consulted for verification if not DOT label is present).
- If you see the diamond-shaped DOT label, make note of the hazard classification number at the bottom of the diamond.

- Check the capacity of the containers that you transport.
- If the DOT diamond-shaped label is present, look for the packing group number in the center of the diamond. It will be either:
  o PG I = material poses great danger;
  o PG II = material poses medium danger;
  o PG III = material poses minor danger.

If this information is not on the diamond found on the packaging, it can likely be found on the SDS, shipping papers provided, the supplier or product manufacturer should know.

- Determine the total weight of the product being transported. Under DOT regulations, a 50-pound bag of product represents 50 pounds regardless of whether the actual amount of active ingredient is much less. Some laws regulate by the amount of active ingredient, not the total weight; this isn't the case with the DOT.

Based on the information you obtained from the items listed above, MOT meets any one of the following and is exempt:

- Class 3, 8, 9, Division 4.1, 5.1, 6.1, or other regulated materials, contained in one package with a capacity of no more than:
  - 1 pound or 1 pint for a PG I material;
  - 66 pounds or 8 gallons for a PG II, PG III, or other regulated materials; or o 400 gallons of a diluted mixture not to exceed a 2 percent concentration of a class 9 material;
  - 220 pounds of a Division 2.1 or 2.2 material in a cylinder; and
  - One-ounce package (or less) of a Division 4.3, PG II, or PG III material.

No more than 440 pounds of any hazardous material not specified above may be transported. If all the DOT hazardous materials that you transport fit the previous exceptions, they are considered MOTs and you are exempt from the requirements if the following are *also* met:

- Packaging must be leak-proof for liquids and gases, sift-proof for solids.
- Packages must be securely closed, secured against movement, and protected against damage.
- Gasoline must be contained in containers approved by DOT or OSHA.
- Cylinders and pressure vessels must be marked with the proper shipping name and must have the identification number and DOT label attached.
- A non-bulk package other than a cylinder (including receptacles transported without outer packaging) must be marked with a common name to identify the contents, including the letters "RQ" if it contains a Reportable Quantity of a hazardous substance.
- A tank that contains a diluted mixture (not more than 2 percent concentration) of a Class 9 material must be marked on two opposite sides with the 4-digit United Nations (UN) or North America (NA) identification number.
- The operator of a motor vehicle that contains MOT must be informed of the presence and amount of the hazardous material.

The following is a summary relative to the typical MOT driver in the USDA Forest Service:

1. The Materials of the Trade "MOT" driver (Normal FS everyday driver)

a. Normal driver's license
b. Can carry most hazmat except explosives, radioactive, poisonous by inhalation, self-reactive or hazardous waste
c. No single package or container can be more than 8 gallons or weigh more than 66 pounds
d. No compressed gas cylinder can weigh more than 220 pounds
e. Gasoline can only be carried in a container that is no larger than 5 (five) gallons, constructed of metal or plastic and must be approved by DOT or UL or FM or OSHA.
f. If carrying more than one hazmat the total gross weight of all hazmat (including the container or package weights) cannot be more than 440 pounds, including load on a pulled trailer
g. No placards are required on vehicle
h. Only Hazardous Communications (HAZ COM) training required
i. No shipping papers required
j. Flammables cannot be carried inside the passenger compartment of any vehicle.
k. Drip Torches may be carried with product in them under this provision as the product in them is classed by DOT as "Flammable Liquid, N.O.S. (diesel and gasoline mixture) 3, PG II, UN 1993. The torch must be leak proof and securely closed.

The following are summaries for the other two categories, when certain thresholds are exceeded:

2. The Non – CDL Haz Mat Driver (a CDL not required)

a. Hazmat load on your vehicle exceeds 440 lbs. including load on a pulled trailer
b. You a carrying a compressed gas cylinder which weighs more than 220 pounds
c. Package sizes are larger than 8 gals or 66 pounds up to and not exceeding 118 gallons or 1,000 pounds, these larger packages must be DOT approved. UL, FM or OSHA approved containers are still approved for materials of trade (MOT) carried on this vehicle.
d. Normal driver's license
e. Can carry most hazmat except explosives, radioactive, poisonous by inhalation, self-reactive or hazardous waste
f. If carrying more than one hazmat the total gross weight of all hazmat (including container or package weights) cannot exceed 1000 lbs. including load on a pulled trailer
g. No placards are required on vehicle
   DOT HM-126F training is required for the driver (NO Government Exemption) FSM 2161.44
h. Emergency Response Guide Book (ERG2000) required on the vehicle
i. No Shipping papers required
j. Flammables cannot be carried inside the passenger compartment of any vehicle
l. Drip Torches may be carried with product in them under the MOT provision as the product in them is classed by DOT as "Flammable Liquid, N.O.S. (diesel and gasoline mixture) 3, PG II, UN 1993. The torch must be leak proof (period) and securely closed. This is a material of trade on this vehicle. See 49CFR 173.6 (e).

3. The CDL Haz Mat Driver (Commercial Driver's License)

a. Required for any Haz Mat exceeding 119 gallons in a single container, or exceeding 1001 lbs. total weight or any time a placard is required by Regulation (such as Class I explosives)

b. CDL driver's license with Hazardous Materials Endorsement is required to drive this vehicle (NO Government Exemption)
c. Must Have a Medical Certificate (NO Government Exemption)
d. Can carry any class of hazmat (no restrictions)
e. No hazmat size or weight restrictions
f. Placards are required on vehicle per FS directive
g. Special DOT drivers and security training is required by Federal Regulations (No Government exemption)
h. Emergency Response Guide Book (ERG2000) required on vehicle
i. Shipping Papers (Bill of Laden) required per FSH 6709.11
j. Flammables cannot be carried inside the passenger compartment of any vehicle
k. Drip Torches may be carried with product in them under the MOT provision as the product in them is classed by DOT as "Flammable Liquid, N.O.S. (diesel and gasoline mixture) 3, PG II, UN 1993. The torch must be leak proof (period) and securely closed. This is a material of trade on this vehicle. See 49CFR 173.6 (e)

The following are some scenarios that may be encountered in the USDA Forest Service.

Transporting Flammable and Combustible Liquids

Question: What containers can I carry Gasoline in on a Forest Service vehicle if I am a FS driver operating under the materials of trade (MOT) exemption allowed by DOT?

Note: We are talking about GASOLINE only, not Drip Torch Fuel. Drip Torch Fuel will be covered in a later question.

Answer: Plastic or metal containers which have been approved by the US DOT (UN), Underwriters Laboratories (UL), Factory Mutual (FM) or OSHA in 29CFR1910.106, with a gross capacity not over 8 gallons. No container will be more than 90% full at any time.

DOT approved containers will have this marking: UN3A1 or UN3A2 for metal UN3H1 or UN3H2 for plastic.

1A1/Y1.4/150/83

USA/VL824

1.0

Specific example: **3A1/Y/100/96**

2. UL approved containers will have one of these markings (The UL Marks are registered certification marks of Underwriters Laboratories Inc. The UL Marks may be only used on or in connection with products certified by UL and under the terms of written agreement with UL).

3. FM Factory Mutual approved containers will have this marking inside a diamond shape.

FM

Common Forest Service containers allowed to carry Gasoline are:

- Military Type Jerry Can (Plastic or Metal, DOT approved or UL approved) Note: Some older military Jerry Cans found in FS inventory are not DOT or UL approved even though there is a DOT 51 or DOT 53 marking on the bottom, this is an old obsolete marking, these Jerry Cans can no longer used for transporting Gasoline.
- Safety Cans (UL, FM, or OSHA approved)
- Safety Type Jerry Cans (DOT and UL approved). This is the preferred container to use.

Question: What about Drip Torches and Drip Torch Fuel?

A Drip Torch Fuel is classed by DOT as "Flammable Liquid, N.O.S. (diesel and gasoline mixture) 3, PG II, UN 1993". Under the "materials of trade" rule of DOT a Class 3 material of trade is defined as a Class 3 material contained in a packaging having a gross mass or capacity not over; 66 pounds or 8 gallons. This packaging must be leak tight and securely closed and secured against movement. Therefore drip torch fuel may be carried in Sigg type bottles or drip torches on FS vehicles in accordance with the DOT materials of trade rule. Ensure that the Sigg/ Drip torches do not leak. The FS has tested many of the older models of drip torches to DOT specification test and they have failed the leak test. If you have a drip torch or Sigg type bottle that leaks, don't transport it on a vehicle with product inside. The manufacturers of drip torches now make torches that pass all DOT specification test, and are available, here is just one example:

Statement: The KCR Drip Torch has passed all DOT testing for the transportation of flammable liquids.

Tests and field experience has shown that overfilling a Sigg type bottle or drip torch past the manufacturers recommendation (fill line) will cause these containers to leak, this results in failure of the container to hold the liquid. Overfilling will result in the container not meeting the requirements of the regulations. Persons who fill these containers must be trained in their proper use to include filling procedures.

You can carry drip torch fuel in any container also authorized for gasoline if the container is 8 gallons or less (see question on gasoline). If larger than 8 gallons the container must be a DOT Specification Package authorized in 49CFR172.101 for Flammable Liquids N.O.S. UN1993 packing group II and must have the following DOT symbol on the container that you are going to use:

1A1/Y1.4/150/83

USA/VL824

1.0

or: **3A1/Y/100/96**

Question: What about transporting other flammable things such as spray paint, paint in cans, or other things that I bought at a store or GSA that are flammable or combustible?

Answer: Things that you purchase in stores or through GSA are shipped in a DOT authorized package called Performance Oriented Packaging or "POP Packaging". This is a law that the manufacturer must follow to ship their products. **POP packaging is authorized for transport,** if the original contents are in the manufacturer's original container, bottle, can, box, wrapper or sealed bag called a receptacle. Keep in mind that the receptacle/container must be secured in 4 directions of movement or placed in a secure box or compartment attached to the vehicle prior to and during transport. Do not refill or put anything into POP packaging containers or receptacles that would violate the "original contents". You may combine two ½ empty receptacles into one, if the original contents were both the same material from the same manufacturer. The contents of a POP package may be placed in a container of equal or greater strength and integrity, for example you can put engine oil into a "Sigg type" bottle to transport but you need to mark the Sigg type bottle with the contents inside, with a common name or proper shipping name to identify the material it contains. Also remember that the amount of these items count in the total number of pounds and gallons you are allowed to carry in a vehicle based on your Haz Mat driver classification.

As a side note, when these containers (POP packages) are empty they may be thrown into the trash as common garbage.

Some other important information about transporting Hazardous Materials in the Forest Service.

For transportation on a motor vehicle or a trailer pulled by a motor vehicle, flammable liquid fuel may remain in self-propelled vehicles and mechanical equipment, provided the fuel tanks are securely closed. **Examples are: chain saws, weedeaters, pumps, generators, ATV's, snowmobiles, Mark III fire pumps and associated tanks, outboard boat motors and associated tanks.** An internal combustion engine or mechanized equipment containing an internal combustion engine that is transported in accordance with the provisions of §49CFR 173.220 is not subject to any other requirements of the HMR when transported by motor vehicle. An internal combustion engine or mechanized equipment containing an internal combustion engine that is transported in accordance with the provisions of §49CFR 173.220 is accepted from the marking, labeling and placarding requirements of the HMR. Shipping papers are required if the vehicle being driven is required to be placarded per FSH 2161.44

1. Wet batteries in vehicles, machinery or equipment must be securely installed and fastened in an upright position and must be protected against short circuits and leakage or removed and packaged separately under § 49CFR173.159. (see §49CFR 173.220©).
2. Remember there are Hazardous Materials other than gasoline and fuels, such as **corrosives, oxidizers, flammable solids and pesticides** the hazmat driver rules apply to these also.
3. The USDA Everyday Hazmat User's Training Guide is a valuable resource which also provides helpful information relative to the transporting of materials particular to the Forest Service (see Section III, pages 37 through 101).

DOT Reference Summary

The following information provides a summary of DOT hazardous material classifications, labeling, placards, markings, and shipping papers. This information is meant provide the user with a quick reference relative to DOT hazardous material identification items.

DOT Material Designation and Hazard Communication

The DOT Hazardous Materials Table (49 CFR Part 172.101) designates specific materials as hazardous for the purpose of transportation. It also classifies each material and specifies requirements pertaining to its packaging, labeling, and transportation. Hazard communication consists of documentation and identification of packaging and vehicles. This information is communicated in the following formats:

- Shipping papers
- Package marking
- Package labeling
- Vehicle placarding

Upon determining the proper shipping name (i.e., the name of the hazardous material shown in the Hazardous Materials Table), the Hazardous Materials Table will specify the correct packaging. Packaging authorized for the transportation of hazardous materials is either manufactured to USDOT standards or does not meet USDOT standards, but is approved for shipments of less hazardous materials and limited quantities. The shipper is responsible for determining the shipping name. The shipper must also ascertain the hazard class, United Nations Identification number (if required), labels, packaging requirements, and quantity limitations.

DOT Classification of Hazardous Materials

The USDOT has broad authority to regulate hazardous materials that are in transport, including the discretion to determine which materials shall be classified as "hazardous". These materials are placed in one of nine categories, based on their chemical and physical properties. Based on the classification of the material, the USDOT is also responsible for determining the appropriate packaging materials for shipping or transport. Finally, also based on the material classification, strict guidelines are furnished for proper

labeling/marking of packages of hazardous materials offered for transport, and for placarding of transport vehicles.

- Class 1: Explosives
  - Division 1.1 Explosives with a mass explosion hazard
  - Division 1.2 Explosives with a projection hazard
  - Division 1.3 Explosives with predominantly a fire hazard
  - Division 1.4 Explosives with no significant blast hazard
  - Division 1.5 Very insensitive explosives
  - Division 1.6 Extremely insensitive explosive articles

- Class 2: Gases
  - Division 2.1 Flammable gases
  - Division 2.2 Nonflammable gases
  - Division 2.3 Poison gas
  - Division 2.4 Corrosive gases
- Class 3: Flammable liquids
  - Division 3.1 Flashpoint below -18°C (0°F)
  - Division 3.2 Flashpoint -18°C and above, but less than 23°C (73°F)
  - Division 3.3 Flashpoint 23°C and up to 61°C (73°F to 141°F)
- Class 4: Flammable solids; spontaneously combustible materials; and materials that are dangerous when wet
  - Division 4.1 Flammable solids
  - Division 4.2 Spontaneously combustible materials
  - Division 4.3 Materials that are dangerous when wet
- Class 5: Oxidizers and organic peroxides
  - Division 5.1 Oxidizers
  - Division 5.2 Organic peroxides
- Class 6: Poisons and etiologic materials
  - Division 6.1 Poisonous materials
  - Division 6.2 Etiologic (infectious) materials
- Class 7: Radioactive materials
  - Any material, or combination of materials, that spontaneously gives off ionizing radiation. It has a specific activity greater than 0.002 microcuries per gram.
- Class 8: Corrosives
  - A material, liquid or solid, that causes visible destruction or irreversible alteration to human skin or a liquid that has a severe corrosion rate on steel or aluminum.
- Class 9: Miscellaneous
  - A material which presents a hazard during transport, but which is not included in any other hazard class (such as a hazardous substance or a hazardous waste).
- ORM-D: Other regulated material
  - A material which, although otherwise subjected to regulations, presents a limited hazard during transportation due to its form, quantity and packaging.

USDOT Hazard Labeling, Placarding, Marking, and Shipping Papers

Hazard communication forms the backbone of emergency response, and response begins with identification. The primary mission of USDOT hazard communication is to alert the public and transportation workers of the presence of hazardous materials, and to insure that incompatible materials are segregated when placed in the same transport vehicle or storage area. The distinctive USDOT system of labeling and placarding provides another visual clue for responders to a hazardous material incident.

Hazard markings, labels and placards are a common approach to warning the public of hazards that may be encountered. USDOT uses labels, defined as 4" x 4" colored diamond with warning words and graphics, affixed to the outside of the shipping container or box. Labels are required on the outside of the package regardless of the quantity shipped. DOT requires placards, a much larger version of the labels, to be displayed on tank cars, cargo tanks, portable tanks and bulk packaging. Requirements for placarding are dependent upon the identity and quantity shipped. "Markings" are required to convey specific information about the enclosed hazard and the person responsible.

Placards and Labels

Placards are used to represent the hazard classes of materials contained within freight containers, motor vehicles or train car. Labels communicate the same hazards for smaller containers and packages offered for transport. Examples of the placards and labels used for the various hazard classes follow.

The placard/label to the right is used to designate explosive materials, specifically Class 1.1, 1.2 and 1.3 explosives. Explosives that belong to classes 1.4, 1.5 and 1.6 will have that specified, with the class designation replacing the exploding ball. This placard is required when transporting **ANY** quantity of a Class 1.1, 1.2 or 1.3 explosive, or over 1001 lbs. of a Class 1.4 or 1.5 explosive.

The three placards/labels below are used to designate compressed gases. Given the diverse chemical properties of compressed gases, this class is subdivided into flammable gases (Class 2.1), nonflammable gases or oxygen (Class 2.2) and poisonous gases (Class 2.3). This placard is required when transporting over 1001 lbs. of Class 2.1 or 2.2, or when transporting **ANY** quantity of poisonous (Class 2.3) gas.

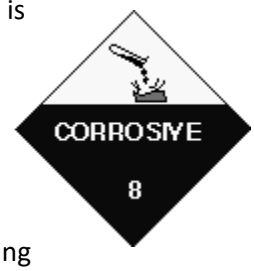
The label and placard to the right is used to designate flammable liquids. Certain common flammable liquids have their own placards, where the name of the material (such as gasoline and fuel oil) replaces the word “FLAMMABLE”. Also, materials that fit the definition of a combustible material, have the word “COMBUSTIBLE” replacing the word “FLAMMABLE”. This placard is required when transporting over 1001 lbs of flammable materials.

The three placards/labels below are used to indicate the cargo contains flammable solids (Class 4.1), materials that are pyrophoric (i.e., ignite in the presence of oxygen) (Class 4.2), and those that react adversely when exposed to water (or humidity!) (Class 4.3). These placards are required when transporting over 1001 lbs of Class 4.1 or 4.2 materials, or when transporting **ANY** quantity of a water reactive material (Class 4.3).

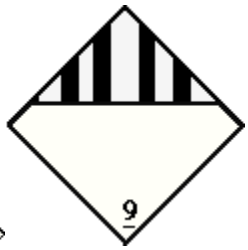
The placard/label to the right is used to designate a cargo that contains oxidizing materials (Class 5.1). In addition, this class contains materials that are classified as organic peroxides (Class 5.2), and in that case the label would read “ORGANIC PEROXIDES” rather than “OXIDIZER”. Placards are required when transporting over 1001 lbs. of oxidizers or organic peroxides.

This placard/label to the right is used to indicate poisonous liquids that are designated as inhalation hazards. If the material is toxic, but not an inhalation hazard it is placed in Class 6.1. Materials in these classes may **NOT** be transported in the same cargo as foodstuffs, feed, or any other edible substances intended for humans or animals. In addition to the POISON label, packages of 110 gallon capacity or less, and that are recognized as “inhalation hazards”, must also be marked “INHALATION HAZARD”. Placarding is required when transporting **ANY** quantity of Class 6 material, and when transporting over 1001 lbs of a Class 6.1 material.

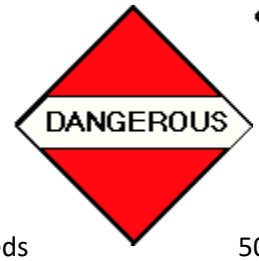
The placard/label to the right is required on all radioactive materials and equipment. Packages containing radioactive species must be clearly labeled with 2 labels on opposite sides of the package. This class is divided into 3 divisions - I, II and III. Placarding is required on **ANY** quantity of radioactive material rated as III; it is not required on materials rated as I or II.



This placard/label to the right is used to designate any corrosive liquid. Placarding is required whenever the quantity exceeds 1001 lbs of a corrosive liquid.



Class 9 materials label/placard (shown to the right) are for those that have not been placed in a hazard class, but may still pose some degree of danger in transport. Placarding is not required for materials that are not classified. However, you may placard a material that presents a hazard during transport and weighs more than 1001 lbs.



The dangerous label/placard (shown to the right) applies to placarding only and is required when 1001 lbs or more of material is transported and it is composed of 2 or more hazard categories. It will replace the specific placards for the individual classes. An exception is when one single class in a multiple class transport exceeds 5000 lbs, in which case the placard for the large load class must be displayed.

Markings

Each person offering for transport a hazardous material must ensure the package, container or vehicle carries the markings appropriate for the corresponding hazard. Specific rules and requirements are outlined in 49 CFR 172.300. The following requirements are generally true, though exceptions are the rule!

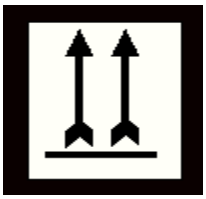
- The proper shipping name and the proper identification number (preceded by UN or NA as appropriate)

- The identification number, when required, may be displayed separately from the warning placard. If so it must consist of black writing on an orange background. If the identification number is displayed on the warning placard itself, it shall be black writing on a white background and will replace the warning wording on the placard, but not the graphic. The identification number must be affixed to each side and each end if the packaging has a capacity of 1,000 gallons or more. It must be affixed on opposite ends if the packaging capacity is less than 1,000 gallons.
- The markings must be durable, in English and printed legibly.

- They must be displayed on a background of sharply contrasting color.
- They must be un-obscured by labels or attachments.
- The markings must be placed sufficiently far from other markings, such as advertising, so as not to detract from them or less their effectiveness.

In addition to the above general requirements, some materials require that specific markings be displayed on packages and on vehicles when offered for transport. The guidelines for these materials are as follows:

- For radioactive materials, each package must have its weight clearly marked on the outside of the package. The packaging type (TYPE A or TYPE B) must be clearly marked on the outside of the package.
- Liquid hazardous materials in non-bulk packaging must be packaged with the closures upward and be legibly marked with package orientation markings pointing in the correct upright direction. Markings that depict arrows for purposes other than to indicate the upward position may not be used on hazardous liquid materials. This requirement does not apply to packaging where the interior package is a metal cylinder.



- Bulk packages which contain materials that are poisonous if inhaled must be marked with the warning "Inhalation Hazard" on two opposing sides. Non-bulk packages must be marked with the word "POISON" within 6 inches of the closure.
- Non-bulk packages of materials classified as ORM-D must be marked on at least one side or end with the ORM-D designation directly below the proper shipping name of the material. This marking is certification by the person offering the material for transport that the description, classification, packaging, marking and labeling are all correct and appropriate for the material.

Shipping Papers

Whenever a hazardous material is offered for transport, it must be accompanied by proper shipping papers, which fully identify the hazards involved.

The description must fulfill the following requirements:

1. If a hazardous material and a non-hazardous material are described on the same shipping papers, the hazardous material must be:
    - named first
    - shown in contrasting (highlighted) color on all copies of the form
    - Identified with an "X" in the column marked "HM".
2. The shipping description must furnish:
    - proper shipping name
    - hazard class or division (this from column 3 of the Hazardous Materials Table)
    - identification number (this from column 4 of the Hazardous Materials Table)
    - packing group (this from column 5 of the Hazardous Materials Table)
    - except for empty packages, the total quantity, including unit for measurement, of the hazardous material.
3. Entry must be legible and in English.

4. Unless specifically authorized or required, the description may not contain codes or abbreviations.
5. Additional information must follow the basic description.
6. Must contain the name of the shipper when transported by water.
7. If more than one page is required, the first page must indicate multiple pages, i.e., “page 1 of 3”.
8. Shipping paper must show an emergency response telephone number.
9. Shipping paper must contain shipper’s certification. An example of the shipping paper entry is as follows:

Hazardous Material Shipping Papers								
TO: **Consignee** **Street** **Destination Zip**			**FROM:** **Shipper** **Street** **Origin Zip**					
Route:			Vehicle Number		**US DOT Hazmat Reg.No.**			
No. Shipping Units	HM	Kind of Packages, Description of Articles (IF HAZARDOUS MATERIALS - PROPER SHIPPING NAME)	Hazard Class	I.D. Number	Packing Group	WEIGHT (subject to correction)	Rate	LABELS REQUIRED (or exemption)

2.6 PROCUREMENT CONTROLS

Here are a couple of possible scenarios of what could happen when chemical containers are left standing on the shelf for years and years. This can happen when purchasing materials that are unneeded, or when purchasing more materials than are needed.

Though these containers were never opened, over time they have undergone a chemical reaction that has resulted in formation of a negative pressure within the container. The walls of the plastic bottles have literally collapsed inward. In addition, a crusty white residue has formed on the outside of the containers. This photo shows what happens when a chemical reaction occurs within a container, and results in the formation of excessive pressure within the container. In this case the pressure was sufficient to cause the container to rupture and expel the contents of the container into the storage area. This material was particularly corrosive and has resulted in the destruction of the two wooden shelves and the metal supports. The danger here is that since the label is destroyed, we don’t know the hazards associated with this unconfined material. Specifically, the toxicity should be of grave concern when handling an unknown material.

Another common storage problem, which is actually an economic issue, is the use of 5-gallon cans. Many business managers look at the short-run fiscal savings accrued with the purchase of bulk chemicals, and don't have the foresight to consider how long it will take to use up a container of this size.

"Buy Only What You Need"

The USDA Forest Service policy for inventory and procurement control is to buy only what you need when you need it, maintain "just-in-time inventory". The old mindset of "more is better" is not practical, as shown in the above scenarios; instead, the concept must be ordering only what you need, and using all that was ordered. This eliminates surplus that could become waste, as well as avoiding potential safety and health issues and regulatory compliance issues; all of which can lead to unnecessary costs (i.e. costs for testing and disposal of unknown hazardous waste; costs to an employee's health/life, lost production, and potential litigation; and non-compliance monetary violations). Buying only what you need and using it, can also have the potential added benefit with cost savings and less environmental impact by changing EPA hazardous waste generator status to a less restrictive category (i.e. moving from a large quantity generator to a small quantity generator, or small quantity generator to a conditionally exempt small quantity generator).

Inventory Control

The following section provides a basic outline of a procurement review and approval process.

1. The unit's hazardous materials coordinator should review the latest hazardous materials inventory (Appendix A of the Unit's Hazardous Communications Plan) (see Section 2.2 above relative to inventory). The coordinator should determine which individuals or groups are responsible for using those hazardous materials and identify the actual needs and quantities of those materials in use, and identify the possibility of reducing quantities or the possibility to substitute materials for less hazardous ones.

   The coordinator may be able to identify "problem" areas by looking at the current inventory, and should question the responsible group or individual for the purpose of having an excessive amount of material in current stock. One such area that can typically exist in the Forest Service is with excessive amounts of stored paints. When identify "problem" areas, consideration should be given toward more environmentally unfriendly products such as excessive oil-based paints, which should be made a priority concern over water-based paints. Identify manners in which to appropriately utilize the current stock if at all possible before the product expires, and be sure to procure smaller amounts that product in the future.
2. An internal program should be developed to review and approve any purchase requests for new hazardous materials. The procurement review and approval processes should include an element

that defines how hazardous materials are identified and approved prior to purchase. One possible manner is through approved lists:

(a) The hazardous materials coordinator or a group leader should develop a list of approved hazardous materials which are acceptable and others which should only be used with specific and limited applications. As a first step, this review process could be utilized for all new product requests, or consideration could be given with the starting from the current inventory list.

(b) Consideration should be given to the potential of maintaining a 30-day supply of the most common items in inventory. Lists should be updated as materials are added or deleted, and circulated to unit employees that will need them for their product ordering decisions.

(c) Environmentally preferred materials that have been approved for use by one group or unit can be purchased by other groups or units without additional documentation. Prior to changing to a different product, departments should evaluate the product's ability to perform in the applicable work process and review previously conducted testing results.

d) The hazmat coordinator and procurement agent should have available a list of products and quantities that have been approved.

SECTION 3 – WASTES [LIKELY TO BE FOUND/GENERATED BY UNIT]

3.1 ABSORBENTS

Absorbents used at the Forest will take on the hazard characteristics of the materials they were contaminated with. The used absorbents must be managed as hazardous waste when used to absorb hazardous materials.

3.2 ANTIFREEZE

Reference the Region 9 Antifreeze District Guidelines.

3.3 BATTERIES - UNIVERSAL WASTE

Reference the Region 9 Batteries District Guidelines and Checklists.

3.4 GARBAGE, TRASH, DUMPS, TIRES & BONEYARDS

Reference the Region 9 Regular Garbage & Trash (Solid Waste) District Guidelines and Checklists.

3.5 CLEANING SOLVENTS

Reference the Region 9 Appendix 1 covering solvents.

3.6 ELECTRONICS

Reference the Region 9 Electronics District Guidelines.

3.7 LIGHT BULBS AND TUBES - UNIVERSAL WASTE

Reference the Region 9 Lightbulb District Guidelines and Checklist.

3.8 MERCURY CONTAINING EQUIPMENT - UNIVERSAL WASTE

Reference the Region 9 Mercury Containing Equipment District Guidelines.

3.9 USED OIL & FILTERS

Reference the Region 9 Used Oil & Filters District Guidelines and Checklist.

3.10 PAINTS - AEROSOL

Reference the Region 9 Appendix 3 covering aerosol cans.

3.11 PAINTS - WATER BASED AND OIL BASED

Reference the Region 9 Appendix 2.

3.12 STANDARD OPERATING PROCEDURE FOR HAZARDOUS WASTE ACCUMULATION AREA (HWAA)

The purpose of a Hazardous Waste Accumulation Area (HWAA) is to allow for the Forest Service to store Hazardous Waste (HW) for up to 180 days (270 days if shipped over 200 miles). The Forest Safety Office must approve all HWAAs prior to use. The Forest Safety and Occupational Health Specialist (Hazardous Waste/Material Program Manager) notifies the WVDEP of the site's establishment and obtains the EPA ID number. The Forest Safety and Occupational Health Specialist performs periodic inspections of all HWAA's to ensure compliance with applicable federal, state, and local regulations. To request an additional HWAA, contact the Forest Safety and Occupational Health Specialist, to request approval. The Forest Safety and Occupational Health Specialist must also approve closure of a HWAA. Prior to appointment as the HWAA custodian, the custodian or any alternate(s) must receive HW training. The Forest Safety and Occupational Health Specialist must be notified whenever a new HWAA custodian is assigned. The custodian is responsible for ensuring the following requirements are met.

STORAGE CONTAINERS

1. All HW must be stored in containers that are in good condition (not leaking, dented, rusted, or corroded). Containers greater than 26 gallons used for the storage of Volatile Organic Carbons must be DOT approved or documented to have appropriate air emissions controls. Containers used for the storage of Volatile Organic Carbons and greater than 119 gallons must be documented to have appropriate air emissions controls. To obtain air emission documentation, contact the Forest Safety and Occupational Health Specialist for assistance.
2. To avoid adverse chemical reactions and spills, containers must be compatible with the HW stored in them. Do not place HW in an unwashed container that previously held an incompatible waste or material. Use plastic lined containers for corrosive wastes and steel containers for most other types of waste.
3. To avoid adverse chemical reactions, facilitate recycling, and minimize disposal cost, separate containers must be used for each type of waste. Select container size according to the amount of HW generated. Open top containers are generally used for solids and cannot contain any free flowing liquid, while bung top containers are used to store liquids. Do not commingle HW and hazardous materials. Once a container of hazardous material has been contaminated with HW, the whole container must be managed and disposed of as hazardous waste.

4. A wall, berm, dike, or other device to prevent violent reactions must separate incompatible wastes. For assistance with incompatibility determination, contact the Forest Safety and Occupational Health Specialist.

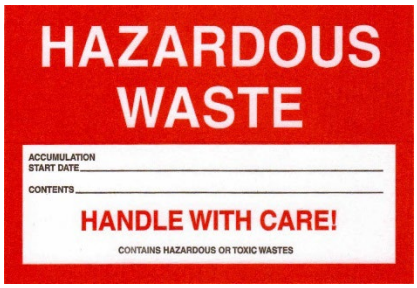
5. Good housekeeping standards must be employed at all times; keep the HWAA orderly and free from trash.

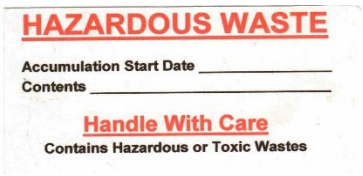
6. To prevent spillage and fumes, keep HW containers sealed at all times except when adding wastes. Adequate aisle space will be maintained to allow movement of personnel and incident response equipment.

8. Each HWAA must have a sign with the words "HAZARDOUS WASTE ACCUMULATION AREA" posted at the area. Each HWAA must also have emergency procedures and a list of emergency phone number(s) posted at the area.

9. A "NO SMOKING" sign must be posted if ignitable or reactive wastes are stored in the HWAA.

LABELING





1. All labels and marking must be readily visible.

2. Each HW container must be labeled with the following:

   a. The words "HAZARDOUS WASTE" must be spelled out; no abbreviations are allowed.

   b. The specific contents of the container. All contents of the container must be listed on the outside of the container (if possible)

   c. The accumulation date. The accumulation start date is the date the first drop of HW is placed into the container.

3. HW containers must be stored for less than 180 days (6 months). Each HW container must be picked up before 180 days elapses; therefore, coordination must be made with Hazardous Wastes Disposal company for pickup prior to the 180-day deadline. In order to provide the company adequate time to respond to a pickup request, the HWAA custodian should contact the company for a pickup 150 days (5 months) of the accumulation start date.

4. If containers are being reused (this is discouraged) all old labels and markings of the original container must be removed or obliterated. This can be done by spray painting over the original label or marking through it with indelible markers.

5. Containers of used oil, used antifreeze and used hydraulic fluid should be marked "USED PETROLEUM OIL," "USED SYNTHETIC OIL," and "USED ANTIFREEZE", respectively. Do not mix the oil or antifreeze with

any other wastes. Petroleum based oil products and synthetic based oil products should be accumulated in separated containers.

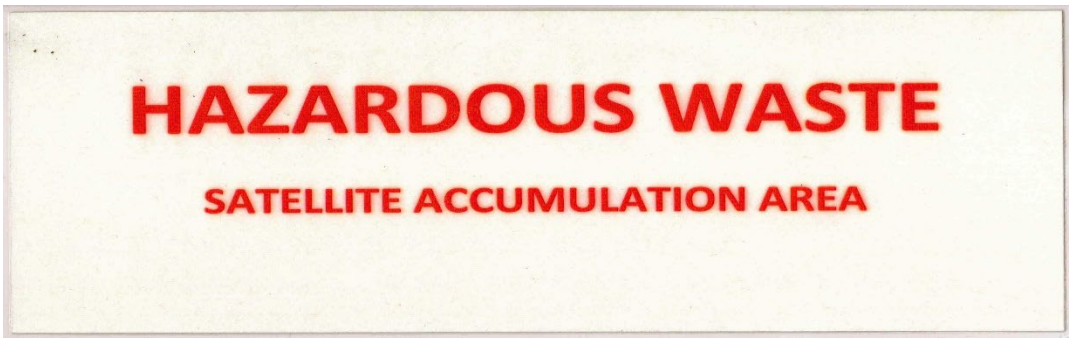
SPILLS/SPILL CONTROL EQUIPMENT

1. Suitable spill control equipment must be available to contain the contents of the largest container stored in the HWAA.
2. If a spill, overfill, or leak of HW occurs, clean the released HW with appropriate absorbent(s), sweep up or use other appropriate methods. The contaminated absorbent(s) is/are considered HW and shall be managed as such. Follow the spill reporting procedures.
3. A suitable fire extinguisher must be easily accessible within fifty (50) feet of the HWAA. Ensure fire extinguisher is routinely inspected in accordance with safety or fire department requirements.

INSPECTION/TRAINING

1. The site custodian or qualified alternate, using the attached checklist, will inspect the accumulation area every seven (7) calendar days, or more frequently if needed (e.g. following spills or incidents). The inspection checklist must be completed.
2. Any deficiency/violation must be corrected immediately. Deficiency corrections must be noted on the inspection sheet in the space provided. Corrective action taken, date accomplished, and initials of person performing corrections must be recorded.
3. All inspection checklists must be kept for three (3) years.
4. Annual HW training is required for all personnel performing the inspection checklist. Incoming personnel must receive training prior to the appointment as the HWAA custodian. A copy of the HW training certificates or other suitable documentation must be kept with the inspection sheets. Online training may be acceptable, contact the Forest Safety and Occupational Health Specialist for further information.

3.13 STANDARD OPERATING PROCEDURE FOR SATELLITE ACCUMULATION AREA (SAA)



The purpose of an SAA is to allow hazardous waste (HW) to be managed properly without interfering with the work process. The Forest Safety and Occupational Health Specialist (Hazardous Waste Program Manager) must approve all SAAs, and any future closures of SAAs. To establish or close an SAA, contact the Forest Safety Office prior to the planned date of establishment or closure of the SAA.

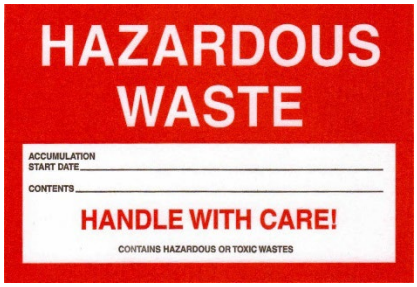
The SAA must meet the following requirements:

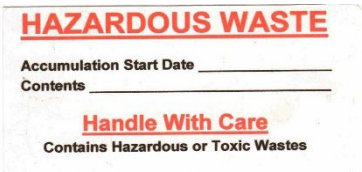
1. An SAA is limited to the process that generates the HW.
2. An SAA must be under the control of the operator of the process generating the HW.
3. An SAA must be located at or near the point of waste generation.
4. A maximum of 55 gallons of all non-acute hazardous wastes or one (1) quart of all acute hazardous wastes may be accumulated per SAA, regardless of the number of HW containers used in the SAA.
5. Containers in the SAA will be marked with the full date – the date the HW container reaches its capacity, regardless of its sizes. Once full, the container(s) must be moved to a Central Accumulation Area, or be picked up by the contracted disposal company **within 72 hours**. It is highly recommended that when a container reaches **75% full**, the SAA custodian contact Safety Office to arrange a pickup.
6. All HW in an SAA must be stored in containers that are in good condition, not rusted, corroded, dented, or leaking. If a container is not in good condition or if the container begins to leak, the operator of the SAA shall transfer the HW from this container to a container that is in good condition. The HW must also be stored in containers that are compatible with the wastes**. The containers must also be closed at all times, except when waste is added.**
7. Each SAA must have a spill kit located nearby. A spill kit generally consists of at least one drum, absorbent and other items (shovel, mops, absorbent rags, etc.) as needed to clean up a spill equal to the contents of the containers stored in the SAA.
8. If a spill, overfill, or leak of HW occurs, clean the released HW with appropriate absorbent(s), sweep up or use other appropriate methods. The contaminated absorbent(s) is considered HW and shall be managed as such. Follow the spill reporting procedures in Appendix.
9. All containers holding HW in an SAA must be marked with the words “HAZARDOUS WASTE” and the name of the specific contents in the container. The words “HAZARDOUS WASTE” must be spelled out, no abbreviations are allowed.
10. Each SAA must have a fire extinguisher located within fifty (50) feet of the area. The fire extinguisher must be easily accessible at all times. An ABC type extinguisher is recommended. The SAA operator must also ensure the fire extinguisher is routinely inspected in accordance with safety or fire department requirements.
11. A “NO SMOKING” sign must be posted if ignitable or reactive wastes are stored in the SAA.
12. Each SAA must have a sign with the words “SATELLITE ACCUMULATION AREA” posted at the area. Each SAA must also have emergency procedures and a list of emergency phone number(s) posted at the SAA.

13. The custodian of an SAA must have annual training on environmental awareness established by the Forest Service. On-line training is acceptable.

14. No HW may be moved from one SAA to another SAA.

LABELING





1. All labels and marking must be readily visible.

2. Each HW container must be labeled with the following:

   a. The words “HAZARDOUS WASTE” must be spelled out; no abbreviations are allowed.

   b. The specific contents of the container. All contents of the container must be listed on the outside of the container.

   c. The accumulation date. The accumulation start date is the date the first drop of HW is placed into the container.

3. HW containers must be stored for less than 180 days. Each HW container must be picked up before 180 days lapses; therefore, coordination must be made with Hazardous Wastes Disposal company for pickup prior to the 180-day deadline. In order to provide the company adequate time to respond to a pickup request, the HWAA custodian should contact the company for a pickup 2 weeks prior to the 180 day deadline.

4. If containers are being reused (this is discouraged) all old labels and markings of the original container must be removed or obliterated. This can be done by spray painting over the original label or marking through it with indelible markers.

5. Containers of used oil, used antifreeze and used hydraulic fluid should be marked “USED PETROLEUM OIL,” “USED SYNTHETIC OIL,” and “USED ANTIFREEZE”, respectively. Do not mix oil or antifreeze with any other wastes. Petroleum based oil products and synthetic based oil products should be accumulated in separated containers.

SPILLS/SPILL CONTROL EQUIPMENT

1. Suitable spill control equipment must be available to contain the contents of the largest container stored in the SAA.

2. If a spill, overfill, or leak of HW occurs, clean the released HW with appropriate absorbent(s), sweep up or use other appropriate methods. The contaminated absorbent(s) is considered HW and shall be managed as such. Follow the spill reporting procedures.

3. A suitable fire extinguisher must be easily accessible within fifty (50) feet of the SAA. Ensure the fire extinguisher is routinely inspected in accordance with safety or fire department requirements.

INSPECTION/TRAINING

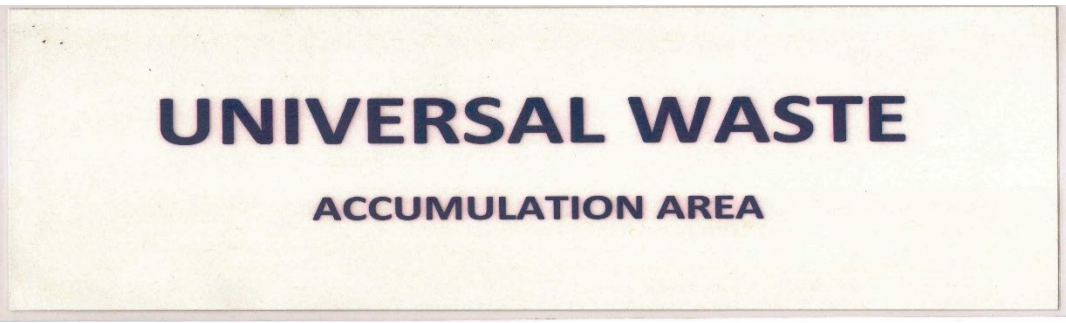
1. The site custodian or qualified alternate, using the attached checklist, will inspect the accumulation area every seven (7) calendar days, or more frequently if needed (e.g. following spills or incidents). The inspection checklist must be completed.

2. Any deficiency/violation must be corrected immediately. Deficiency corrections must be noted on the inspection sheet in the space provided. Corrective action taken, date accomplished, and initials of person performing corrections must be recorded.

3. All inspection checklists must be kept for three (3) years.

4. Annual HW training is required for all personnel performing the inspection checklist. Incoming personnel must receive training prior to the appointment as the SAA custodian. A copy of the HW training certificates or other suitable documentation must be kept with the inspection sheets. On-line training is may be acceptable, contact the Forest Safety and Occupational Health Specialist for further information.

3.13 STANDARD OPERATING PROCEDURE FOR UNIVERSAL WASTE ACCUMULATION AREA (UWAA)



The purpose of this standard operating procedure is to ensure compliance with the current regulations for handlers of Universal Waste (UW) established by the Resource Conservation Recovery Act (RCRA), Part 273. The current UW regulations apply to four types of widely generated hazardous wastes: waste batteries, waste pesticides, waste mercury-containing equipment, and waste lamps. Under RCRA, these hazardous wastes could be classified as universal wastes. Currently the Forest Service is only managing Waste Lamps and Lead Acid Batteries as UW. All UWAAs must be approved by the Safety and Occupational Health Specialist prior to use and before discontinuation of use. The Safety and Occupational Health Specialist must

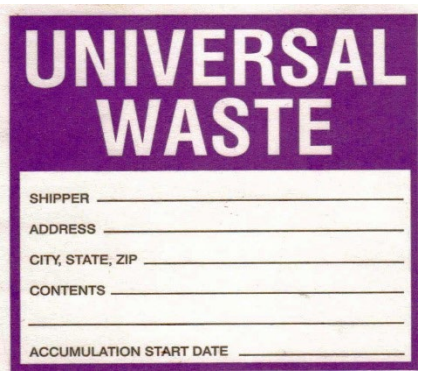
also approve closure of a UWAA. The Forest Safety and Occupational Health Specialist conducts oversight inspections at the UWAAs at least every quarter.

Upon or prior to appointment as the UWAA custodian, the custodian or any alternates must receive UW training. Training will include a review of this standard operating procedure, the attached checklist, and other pertinent training materials developed by the Forest Safety Office. The Forest Safety and Occupational Health Specialist must be notified whenever a new UWAA custodian is assigned. The custodian is responsible for ensuring the following requirements are met.

STORAGE/CONTAINERS

1. All UW must be stored in containers that are in good condition (not leaking, dented, rusted, or corroded).
2. To avoid adverse chemical reactions and spills, containers must be compatible with the UW stored in them. Do not place UW in an unwashed container that previously held an incompatible waste or material. Use plastic lined containers for corrosive wastes and steel containers for most other types of waste. **Use Caution when handling LiOH Batteries. Take care not to get them wet. Use zip-lock bags to keep batteries from shorting on each other.**
3. To avoid adverse chemical reactions, facilitate recycling, and minimize disposal cost, separate containers must be used for each type of waste. Select container size according to the amount of UW generated. Do not commingle UW and hazardous materials.
4. Containers containing incompatible wastes must be separated by a wall, berm, dike, or other device to prevent violent reactions. For assistance with incompatibility determination, contact your Forest Safety Office or call the Regional Environmental Group.
5. Good housekeeping standards must be employed at all times; keep the UWAA orderly and free from trash.
6. To prevent spillage and fumes, keep UW containers sealed at all times except when adding wastes.
7. Adequate aisle space will be maintained to allow movement of personnel and incident response equipment.
8. Each UWAA must have a sign with the words “UNIVERSAL WASTE ACCUMULATION AREA” posted at the area. Each UWAA must also have emergency procedures and a list of emergency phone number(s) posted at the area.
9. A “NO SMOKING” sign must be posted.

LABELING



1. All labels and marking must be readily visible.
2. Each UW container must be labeled with the following:
    a. "Universal Waste-Battery (ies),"
    b. "Universal Waste-Pesticide(s),"
    c. "Universal Waste-Mercury Containing Equipment," or
    d. "Universal Waste-Lamp(s)" as applicable.
3. All words must be spelled out with no abbreviations.
4. The accumulation date. The accumulation start date is the date UW is first placed into the container, regardless of the quantity. If label is placed on the UW item itself, the accumulation date is the earliest date the waste becomes UW. The accumulation date must include the day, month, and year.
5. UW containers must be stored for less than one calendar year from the accumulation date. UW may be stored for no more than six (6) months from the accumulation date.
6. If containers are being reused, all old UW labels and markings of the original container must be removed or obliterated. This can be done by spray painting over the original label or marking through it with indelible markers.

SPILLS/SPILL CONTROL EQUIPMENT

1. Suitable spill control equipment must be available to contain the contents of the largest spillage reasonably expected in the UWAA.
2. If a spill, overfill, or leak of UW occurs, clean the released UW with appropriate absorbent(s), sweep up or use other appropriate methods. The contaminated absorbent(s) is considered regular HW, not UW, and shall be managed as such. Follow the spill reporting procedures.
3. A suitable fire extinguisher must be easily accessible within fifty (50) feet of the UWAA. Ensure fire extinguisher is routinely inspected in accordance with safety or fire department requirements.

INSPECTION/TRAINING

1. The UWAA will be inspected at least quarterly by the Forest Safety and Occupational Health Specialist. The attached checklist may be used by the site custodian to conduct inspections as well.

2. Any deficiency/violation must be corrected immediately. Deficiency corrections must be noted on the inspection sheet in the space provided. Corrective action taken, date accomplished, and initials of person performing corrections must be recorded.

3. Annual UW training is required for all personnel performing the inspection checklist. Personnel managing an UWAA must be thoroughly familiar with proper waste handling and emergency procedures, relative to their responsibilities during normal facility operations and emergencies.

4. The following materials must be available to all personnel: SDSs, evacuation routes, and emergency contact information.

5. Incoming personnel must receive training upon or prior to the appointment as the UWAA custodian. Online training may be acceptable; contact the Forest Safety Office for further information.

SECTION 4 – POLLUTION PREVENTION

Pollution Prevention is any practice which reduces the amount of a hazardous substance, pollutant, or contaminant entering any waste stream or otherwise released into the environment (including fugitive emissions) prior to recycling, treatment, or disposal; and any practice which reduces the hazards to public health and the environment associated with the release of such substances, pollutants or contaminants. Pollution prevention can save the forest considerable resources by reducing waste disposal costs, reducing human resource requirements, reducing hazardous material purchasing costs, and enhancing human health. It also can enhance public image and community relations.

A pollution prevention team can help with strategies and initiatives to help the ANF move toward continuous improvement in managing pollution prevention. They can help establish goals for the forest and monitor tracking of data points such as volumes and types of waste generated, set goals for amounts of wastes that are generated, assist with adherence to policies set by the Forest Supervisor, and advice on program needs. A good pollution prevention program will save the forest expenses with purchasing products and disposing of waste materials. It also has the effect of increasing safety by elimination of toxic materials and hazardous substances, which cause human health concerns with inhalation and dermal exposures to the chemicals. While each forest may have slightly differing practices and chemical product uses, the following concepts can be applied to help save resources.

4.1 PRODUCT SUBSTITUTION

The purpose of this practice is to find substitute materials which are less hazardous than those currently utilized and which result in the generation of waste in smaller quantities and/or less toxicity. Examples of this include:

- Early retirement of equipment such as mercury-containing devices like switches and thermostats;
- Using less toxic products such as switching to the use of lead-free solder in maintenance and construction;
- Improving work practices, such as using non-oil based paint in order to reduce cleaning operations with equipment;
- Using green cleaners which have environmentally friendly chemical components thus eliminating hazardous waste disposal when disposal by-products are generated; and
- Using green products that use recycled components.

4.2 CONSERVATION

The purpose of this practice is to reduce consumption of energy, water, and raw products. Examples of this include:

- Use of materials and waste exchanges for buying and selling reusable and recyclable commodities. Some are physical warehouses that advertise available commodities through printed catalogs, while others are simply web sites that connect buyers and sellers. These exchanges may be used to take an otherwise waste material and put it to good use with little or no cost to the forest.

- Conduct energy audits and implement recommendations to reduce costs and improve efficiencies.

- Use inventory control to determine what materials are on hand and use them up prior to shelf life expiration.

4.3 REUSE

The purpose of this practice is to reclaim value from production by-products for the forest. While there might not be ample opportunities for the forest with this category to impact cost savings, there are some opportunities that should not be overlooked. While recycling does not fit the definition of pollution prevention or more precisely the term reuse (because the forest does not directly receive the benefits of reclaimed value), it is included in this section because of its importance to a sustainable environment. Examples of reuse include:

- Recycling plastics, paper, metals, appliances, equipment, construction debris, lights, batteries, paints, and other materials not wanted. Recycling is a broad term that encompasses the reuse of materials in original or changed forms rather than discarding them as wastes.

- Excavation material can be used for depressions and grading.

4.4 CHANGE PROCESSES

The purpose of this practice is to implement controls in work practices, which reduce hazardous waste generation. Examples of this include:

- Adopting a policy statement at the Forest Supervisor level that commits management support of the program. This requires sufficient resources to promote continuous improvement to the betterment of the program;

- Reducing unnecessary purchases of hazardous and toxic chemicals;

- Enacting policy and procedural changes when managing procurement procedures of hazardous materials. This could include authority of procurement, reviewing current Hazardous Materials Inventory prior to purchasing, or requiring sharing of products across sub-department levels;

- Requiring frequent training addressing hazardous materials and hazardous waste goals of the forest;

- Modifying equipment and procurement of new equipment, which would eliminate or reduce waste generation. This would include purchasing bio-friendly parts, eliminating low-flash parts washers and purchasing or placement of recycling containers;

- Providing waste stream segregation, which enhances value and allows vendors easy acceptance of waste materials. Waste stream segregation could be accomplished according to toxicity, type of contaminant and/or physical state;

- Enhancing housekeeping practices and material handling improvements. Applications include organizing materials and labeling storage locations, allowing access to materials by various departments, organizing materials so the oldest is always moved to the front of the shelf, and placement of informative housekeeping signs;

- Scheduling periodic spill and leak prevention practices;

- Conducting preventive and corrective maintenance on hazardous material and hazardous waste equipment and systems; and

- Enhancing hazardous material and hazardous waste tracking or inventory control by using computerized systems. Possible options include electronic reminders for tracking hazardous waste manifests, updating hazardous material inventories, local inspections of hazardous waste storage areas, and inspections of adherence to adopted guidelines and policies.

SECTION 5 - REFERENCES AND REGULATIONS

Allegheny PA Regulations

State Hazardous Materials and Waste Resources (PADEP)

PADEP (Pennsylvania Department of Environmental Protection)

www.depweb.state.pa.us

PA Regulation Web Site

www.pacode.com

(Environmental Protection is Title 25) (e.g.: 25 Pa Code Section 261)

United Nations. 2011. *Globally Harmonized System of Classification and Labelling of Chemicals (GHS)*. Retrieved, April 10, 2015, from http://www.unece.org/fileadmin/DAM/trans/danger/publi/ghs/ghs_rev04/English/ST-SG-AC10-30-Rev4e.pdf

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Bureau of Waste Management

Hazardous Waste Regulations Article VII – Hazardous Waste Management

Allegheny Bidders (Haz Mat Waste)

Safety Kleen, Inc
127 Booz Rd
Shippensburg, PA 17257-9726
(717) 423-6759
www.safety-kleen.com

Clean Harbors Environmental Services, Inc.
4105 Whitaker Ave
Philadelphia, PA 19124-4239
(215) 425-5144
www.cleanharbors.com

American Environmental Services, Inc.
2100 Georgetown Dr # 303
Sewickley, PA 15143-8728
(724) 933-4100
www.americanenviro.com

Advanced Disposal
112 Pennsylvania Ave W
Warren, PA 16365
(814) 723-4360
(800) 338-8971
www.advanceddisposal.com/pa
edward.yahner@advanceddisposal.com

U.S. Environmental
409 Boot Road
Downingtown, PA 19335
(888) 884-9700
Fax: (610) 518-0500
info@usenv.com
sales@unenv.com

General waste removal

Lee's Waste Services
813 East 18th St
Erie, PA 16503
(716) 355-4319
www.prowasteservices.com

Storer's Container Service, Inc.
Professional Waste Hauling
7684 Cummings Road
Stockton, NY 14784
(716) 595-3186
www.storerscontainer.com

Recycling & Tire disposal

Penhollow Disposal Service, LLC (PDS)
Sinclairville, NY
(716) 962-2224
Fax: (716) 962-2225
penhollowdisposal@windstream.net

Scraps

Goodman Services, Inc.
286 High St
Bradford, PA 16701
(888) 892-1379
www.goodmanservices.com

Weinstein Co.
Scrap Iron & Metals
610 W. Eighth St
Jamestown, NY
weinscrp@netsync.net

Lincoln Metal Processing
1602 Selinger Ave
Erie, PA 16505
(800) 989-7628
www.lincolnmetalco.com

Liberty Iron & Metal, LLC
1431 East Ave
Erie, PA
(814) 452-4549
(800) 836-0259
www.libertyiron.com