

APPENDIX B - Procedures for Mixing, Loading, and disposal of Herbicides; Spill Plan; And Example Job Hazard Analysis. Aerial applications require an additional air safety plan, FHS 6709.11 (22.11b), 2109-14.

Procedures for Mixing, Loading, and Disposal of Herbicides

The following measures will apply to all pesticide applications:

- All mixing of pesticides will occur at least 100 feet from surface waters or wellheads.
- Dilution water will be added to the spray container prior to addition of the herbicides.
- All hoses used to add dilution water to spray containers will be equipped with a device to prevent back siphoning.
- Applicators will mix only those quantities of herbicide that can be reasonably used in a day.
- During mixing, mixers will wear all necessary personal protective equipment as required by the pesticide label and the Health and Safety handbook.
- All empty containers will be triple rinsed and the solution will be disposed of by spraying near the application site at rates that do not exceed those on the spray site.
- All unused pesticide will be stored in a locked building, with spill containment and met requirements of a temporary pesticide facility FSH 2109,40.
- All empty and rinsed herbicide containers will be punctured and properly disposed of.

Herbicide Spill Plan

Pesticide spill prevention and clean-up, as well as storage, transport, and disposal procedures are covered in detail in Forest Service Handbook (FSH) 2109.12 Pesticide Storage, Transportation, Spills, and Disposal. Any herbicide projects would follow the direction given in this handbook. It is available for review at U.S. Forest Service offices.

Required Equipment

The following equipment will be available with vehicles or pack animals used to transport pesticides and in the immediate vicinity of all spray operations. A full list of spill kit contents are in FSH 2109- 14, 60

1. A shovel
2. A broom (except backcountry operations)
3. 10 pounds of absorbent material or the equivalent in absorbent pillows
4. Large plastic garbage bags
5. Rubber gloves
6. Safety goggles
7. Protective overalls
8. Rubber boots

Material Safety Data Sheets, labels, JHA and spill plans will be reviewed with all personnel involved in the handling of pesticides. Copies of MSDA, labels will be with applicators.

EPA Guidance/CHEMTREC.

The following material from the U.S. EPA document entitled Applying Pesticides Correctly: A Guide for Private and Commercial Applicators will be reviewed with all personnel involved in handling pesticides.

CLEAN UP OF PESTICIDE SPILLS

Minor Spills: Spill less than five gallons

Keep people away from spilled chemicals. Rope off the area and flag it to warn people. Do not leave unless someone is there to confine the spill and warn of the danger. If the pesticide was spilled on anyone, wash it off immediately.

Confine the spill. If it starts to spread, dike it up with sand and soil. Use absorbent material such as cat litter, absorbent pillows, soil, sawdust, or absorbent clay to soak up the spill. Shovel all contaminated material into a leak proof container for disposal. Dispose of it as you would excess pesticides. Do not hose down the area, because this spreads the chemical. Always work carefully and do not hurry. Control access to the area until the spill is completely cleaned up.

Major Spills: In Montana a spill of 5 gallons or more must be reported to the state

The cleanup of a major spill may be too difficult for you to handle, or you may not be sure of what to do. In either case, keep people away, give first aid if needed, and confine the spill. Then call Chemtrec or the State pesticide authorities for assistance. Chemtrec stands for Chemical Transportation Emergency Center, a public service of the Manufacturing Chemicals Association with offices located in Washington D.C. Chemtrec provides immediate advice for those at the scene of emergencies. Chemtrec operates 24 hours a day, seven days a week, to receive calls for emergency assistance. For help in chemical emergencies involving spills, leaks, fire, or explosions, call toll-free **800-424-9300** day or night. This number is for **emergencies** only

If a major pesticide spill occurs on a highway, have someone call the highway patrol or the sheriff for help. (Carry these phone numbers with you.) Do not leave until responsible help arrives, in this case the local Montana Department of Agriculture Pesticide Specialist for the project area.

Northern Region Guidance In addition the section from the Northern Region Emergency and Disaster Plan entitled "Hazardous Materials Releases and Oil Spills" will be reviewed with all appropriate personnel (see following paragraph) publication and reporting requirements as outlined in this section will be followed in the unlikely event of a serious spill.

HAZARDOUS MATERIALS RELEASES AND OIL SPILLS

(Excerpted from the Northern Region Emergency and Disaster Plan)

Authority: Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA); and Superfund Amendments and Reauthorization Act of 1986 (SARA). Other statutes that may apply include Resource Conservation and Recovery Act (RCRA); Hazardous and Solid Waste Amendments (HSWA); Toxic Substances Control Act (TSCA); Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA); Clean Water Act (CWA); and Clean Air Act (CAA).

Definition: A hazardous materials emergency or oil spill is defined as any release or threat of release of a hazardous substance or petroleum product that presents an imminent and substantial risk of injury to health or the environment.

A release is defined as any spilling, leaking, pumping, pouring, emitting, emptying, discharging, injection, escaping, leaching, dumping or disposing into the environment.

Releases that do not constitute an immediate threat, occur entirely within the work place, are federally permitted, or are a routine pesticide application, are not considered to be an emergency and are not covered by this direction.

Responsibility: The first person who knows of a release and is capable of appreciating the significance of that release has the responsibility to report that release.

Only emergency release response and reporting is covered by this direction. Appropriated Regional Office staff specialists who should be notified directly of all non-emergency releases will accomplish who should be notified directly of all non-emergency releases will accomplish non-emergency reporting.

An emergency release of a hazardous substance or petroleum product may be from a Forest Service operation or facility; from an operation on National Forest land by a permit holder, contractor, or other third party; or from a transportation related vehicle, boat, pipeline, aircraft, etc., crossing over, on or under Forest Lands. Response and/or reporting by Forest Service employees will differ in each situation:

1. If the release is from a Forest Service facility or operation, the Forest Service and employee(s) is clearly the "person in charge", and is fully responsible for all reporting. Immediate response action is limited to that outlined in emergency plans and only to the extent that personal safety is not threatened.

2. If the release is from a third party operation, the Forest Service will only respond and/or report the emergency if the third party fails to take appropriate action.
3. If the release is from a transportation related incident, the Forest Service will only respond and/or report the emergency if the driver or other responsible party is unable or fails to take appropriate action.

Response Action Guide: the primary responsibility of any Forest Service employee(s) encountering a hazardous materials emergency or oil spill is completed and accurate reporting to appropriate authorities in a timely manner.

Forest Service employee(s) will not assume an incident command role for any hazardous materials emergency of spill, but may provide support services as directed by an authorized Federal On-Scene Coordinator (OSC) or other State or local authority.

Within the limits of personal safety, common sense, and recognition of the dangers associated with any hazardous materials emergency or spill, Forest Service employee(s) may provide necessary and immediate response action until an authorized OSC or other authority can take charge. These actions may include:

- Public warning and crowd control;
- Retrieval of appropriate information for reporting purposes.

Additionally, and only after verification of the type of hazardous material involved and its associated hazards, a Forest Service employee(s) may also take actions including;

- Rescue of persons in imminent danger;
- Limited action to mitigate the consequences of the emergency.

Under no condition shall a Forest Service employee(s);

- Place themselves or others in imminent danger.
- Perform or direct actions that will incur liability for the Forest Service.

If there is any question that the emergency may constitute a threat to personal safety, limit your response to public warning and reporting or the incident.

Precautions: When approaching the scene of an accident involving cargo, or other unknown or suspected hazardous material emergency including oil spills:

- Approach incident from an upwind direction, if possible;
- Move and keep people away from the incident scene;
- Do not walk into or touch an spilled material;
- Avoid inhaling fumes, smoke, and vapors even if no hazardous materials are involved;
- Do not assume that gases or vapors are harmless because of lack of smell; and,
- Do not smoke, and remove all ignitions sources.

ORGANIZATIONS FOR EMERGENCY AND TECHNICAL ASSISTANCE

CHEMTREC – Chemical Transportation Emergency Center – 800-424-9300 (24 hours) (For assistance in any transportation emergency involving chemicals).

Rocky Mountain Poison Control Center – 800-525-5042 (24 hours); 303-629-1123 (24 hours).

National Agricultural Chemicals Association – 202029301585 (for pesticide technical assistance and information referral).

Bureau of Explosives 202-293-4048 (For explosive technical assistance).

Centers for Disease Control 404-633-5313 (For technical assistance regarding etiologic agents).

EPA Region 8 (MT, ND, SD) Emergency Response Branch 303-029301723

EPA Region 10 (ID) Superfund Removal and Invest Section 206-422-1196

Montana Department of Health and Environmental Sciences (24 hours) 406-444-6911

Water Quality Bureau 406-444-2406

Solid Waste Management Bureau 406-444-2821

Idaho Department of Health and Welfare
 Water quality Bureau 208-334-5867
 Solid Waste Bureau 208-334-5879

HAZARDOUS MATERIALS RELEASES AND OIL SPILLS CONTACT LIST AND IMMEDIATE ACTION GUIDE

Individual

Action	Contact
Do not expose yourself or others to any unknown materials. Do not attempt rescue or mitigation until material has been identified, and hazards and precautions noted. Warn others and keep people away. Approach only from upwind. Do not walk in or touch material. Avoid inhaling fumes and vapors. Do not smoke, and remove ignition sources.	District Ranger, or Dispatcher
Report the incident. Complete “Reporting Action Guide” within reasonable limits of exposure and timeliness, and report information to District/Forest Dispatcher	District/Forest Dispatcher
If there is any question that the incident is a threat to personal safety, limit response to public warnings and reporting.	

District

Action	Contact
Insure reporting individual is aware of hazards associated with incident.	Forest Dispatcher
Obtain as much information as possible, complete a copy of the Reporting Action Guide and relay all information to Forest Dispatcher.	
For fixed facilities, verify if possible, whether or not an emergency guide, Spill Prevention Control and Countermeasure Plan, or similar response plan is available for the specific emergency. If so, implement the response actions as indicated.	
Dispatch additional help, communication systems, etc., to incident scene if incident is on National Forest land or is caused by Forest Service activity or facility. Otherwise support as requested by official in charge.	
If there is any question that the incident is a threat to personal safety, limit response to public warning and reporting.	

Forest

Action	Contact
Immediately contact the Forest Hazardous Materials Incident Commander who will take the following actions: Determine if the incident is a true emergency. Determine who is the responsible party for the incident, and whether appropriate actions and reporting have been accomplished. From available information, determine hazards and precautions, if possible, and relay further instructions to reporting individual through the District. Initiate appropriate local reporting actions, and coordinate responses with District.	Forest Hazardous Materials Incident Coordinator who will determine extent of emergency. If incident is determined reportable, contact: National Response Center; EPA Hazmat emergency response; Regional Incident Dispatcher; County sheriff and/or county disaster and

Arrange Forest support for on-scene coordinator and/or local emergency response officials as requested.	emergency services coordinator; State Emergency and Disaster organizations; and Internal Forest Contacts
Make appropriate local emergency contacts as directed by Forest Hazardous Materials Incident Coordinator.	
Relay information from Forest Hazardous Materials Incident Coordinator back to District and up to Regional Office as appropriate.	

Regional Incident Dispatcher

Action	Contact
Immediately contact the Regional Hazardous Materials Incident Coordinator who will take the following actions: Personally work with Forest Hazardous Materials Incident Coordinator to determine extent of the emergency. If incident is reportable, implement the following actions: By computer mailing list notify the Regional Forester, Deputy Regional Forester, Staff Directors and Attorney-in-charge (OGC); Contact other Regional Office (RO) specialists, other agency personnel, etc., as necessary to determine scope of problem and appropriate actions. RO specialist contacts include: Regional Watershed Coordinator (water); Regional Reclamation Officer (mining); Regional Safety and Health Program Manager; Regional Cooperative Forestry and Pest Management; Arrange Regional Support for on-scene coordinator and/or local emergency response officials as requested; Arrange a Regional Investigation/follow-up team if determined necessary; Keep Regional Forester, Staff Directors and OGC advised of situation via routine computer updates.	Regional Hazardous Materials Incident Coordinator; Regional Emergency Coordinator; If incident is determined to be reportable, verify the National Response Center and appropriate Federal, State, and local contacts have been made; WO Engineering; WO Personnel Management.

Although reporting requirements vary depending on the type of incident, the responsibility of the employee(s) in the field is limited to collecting appropriate information and relaying it to the proper level of the organization in a timely manner. Following is a list of the information that should be collected, if possible; however, it is more important to maintain personal safety and report in a timely manner than to collect all information.

1. Date
 - Time of release:
 - Time discovered:
 - Time reported:
 - Duration of release:
2. Location (include state, county, route, milepost, etc.)
3. Chemical name:
 - Chemical identification number:
4. Known health risks:
5. Appropriate precautions if known:
6. Source and cause of release:

7. Estimate of quantity release (gallons):
Quantity reaching water (gallons):
Name of affected watercourse:
8. Number and type of injuries:
9. Potential future threat to health or environment:
10. Your Name:
Phone number for duration of emergency
Permanent phone number
11. For transportation related incidents, also report:
Name and address of carrier:
Railcar or truck number:

If there is any doubt whether an incident is a true emergency or whether reportable quantities of hazardous materials or petroleum products are involved, or whether a responsible party has already reported the incident, always report the incident.

FS-6700-7 (11/99)

<p>U.S. Department of Agriculture Forest Service</p>	<p>1. WORK PROJECT/ACTIVITY Weed Spraying with Herbicides</p>		<p>2. LOCATION</p>	<p>3. UNIT</p>
<p>JOB HAZARD ANALYSIS (JHA) References-FSH 6709.11 and -12 (Instructions on Reverse)</p>	<p>4. NAME OF ANALYST</p>		<p>5. JOB TITLE</p>	<p>6. DATE PREPARED</p>
<p>7. TASKS/PROCEDURES</p>	<p>8. HAZARDS</p>	<p>9. ABATEMENT ACTIONS Engineering Controls * Substitution * Administrative Controls * PPE</p>		
<p>General herbicide use</p>	<p>Exposure/Contamination</p>	<p>Read the product label before each use and follow the directions</p>		
<p>Loading</p>	<p>Spill/contamination Back/muscle strains</p>	<p>Keep chemicals and related equipment in designated area of vehicle outside the passenger area. If bedliners are used only use those made of non-porous material. Carry herbicide containers inside a catch basin. Make sure lids are on tight, containers upright & secure; use gloves when handling chemical containers. Read the Material Safety Data Sheets for herbicide used. Use good lifting techniques: bent knees, close positioning, smooth coordinated motion, upright back.</p>		
<p>Mixing herbicides</p>	<p>Exposure/spills Synergism</p>	<p>Wear face shield or goggles, chemical resistant rubber gloves, apron, long sleeves, pants, and chemical resistant rubber boots (use insoles to improve fit). Fill tank half way with water, add herbicide, then finish filling tank. Read Material Safety Data Sheets for specific herbicides. Use only recommended amounts. Close container immediately after use. Be Aware of the effects of Mixing chemicals. Read labels.</p>		
<p>Spraying herbicides</p>	<p>Exposure Trips/Falls</p>	<p>Wear personal protective equipment: non-vented goggles to protect eyes from drift; long sleeves; clean chemical resistant gloves to protect arms and hands; long pants and chemical resistant boots. Use unlined equipment because liners can carry residue. Wear disposable or washable coverall as added protection against drift or spills. Wash or dispose of after each use. Avoid walking through treated areas. Do not touch your face with gloves. Think about hands: do not touch your face or food until hands are washed. Treat chemicals with respect. Don't get complacent. Do not spray if temperature is over 85 degrees F because more vapors created. Do not spray if winds are above about 10 miles per hour. Take extra when walking with PPE on. Goggles and respirators can reduce your field of vision. Watch your footing. A backpack sprayer can throw off your balance. Watch your footing and balance.</p>		
<p>Clean-up</p>	<p>Contamination</p>	<p>After emptying sprayer tank fill with water and spray as if it were a herbicide. Wash outside of sprayer with soap and water in the field. Wash all personal protective equipment in the field with soap and water then wash again with warm soapy water at the station. Return all equipment to proper storage area. Bathe or shower as soon as possible after spraying. Wash clothing separate from other laundry.</p>		
<p>Transporting to and from worksite</p>	<p>Vehicle accidents Chemical spills</p>	<p>Drive defensively, ensure vehicle is in proper running condition, use safety belts. Secure chemicals, backpack sprayers & slip-tank. Carry shovel and plastic bags to clean-up spills</p>		
<p>Spraying herbicide - slip-tank sprayer</p>	<p>Personal contamination</p>	<p>Check fittings and hose clamps for leaks before use; keep spray gun; gun pointed in safe direction when in use, store securely & relieve excess pressure when not in use. Wear all ppe: gloves, boots, safety glasses, & coveralls.</p>		
<p>Spraying herbicide - backpack.</p>	<p>Personal contamination Slips/Falls</p>	<p>Keep wand pointed down at all times, wedge hand between handle and trigger when traversing rough terrain, check equipment for leaks before use, don't carry heavy loads in sprayer; wear all PPE. Work rough terrain always looking for firm footing; tighten shoulder straps to prevent excessive tank movement</p>		
<p>10. LINE OFFICER SIGNATURE</p>		<p>11. TITLE</p>		<p>12. DATE</p>

JHA Instructions (References-FSH 6709.11 and .12)	Emergency Evacuation Instructions (Reference FSH 6709.11)																								
<p>The JHA shall identify the location of the work project or activity, the name of employee(s) involved in the process, the date(s) of acknowledgment, and the name of the appropriate line officer approving the JHA. The line officer acknowledges that employees have read and understand the contents, have received the required training, and are qualified to perform the work project or activity. Blocks 1, 2, 3, 4, 5, and 6: Self-explanatory.</p> <p>Block 7: Identify all tasks and procedures associated with the work project or activity that have potential to cause injury or illness to personnel and damage to property or material. Include emergency evacuation procedures (EEP).</p> <p>Block 8: Identify all known or suspect hazards associated with each respective task/procedure listed in block 7. For example:</p> <ol style="list-style-type: none"> a. Research past accidents/incidents. b. Research the Health and Safety Code, FSH 6709.11 or other appropriate literature. c. Discuss the work project/activity with participants. d. Observe the work project/activity. e. A combination of the above. <p>Block 9: Identify appropriate actions to reduce or eliminate the hazards identified in block 8. Abatement measures listed below are in the order of the preferred abatement method:</p> <ol style="list-style-type: none"> a. Engineering Controls (the most desirable method of abatement). For example, ergonomically designed tools, equipment, and furniture. b. Substitution. For example, switching to high flash point, non-toxic solvents. c. Administrative Controls. For example, limiting exposure by reducing the work schedule; establishing appropriate procedures and practices. d. PPE (least desirable method of abatement). For example, using hearing protection when working with or close to portable machines (chain saws, rock drills, and portable water pumps). e. A combination of the above. <p>Block 10: The JHA must be reviewed and approved by a line officer. Attach a copy of the JHA as justification for purchase orders when procuring PPE.</p> <p>Blocks 11 and 12: Self-explanatory.</p>	<p>Work supervisors and crew members are responsible for developing and discussing field emergency evacuation procedures (EEP) and alternatives in the event a person(s) becomes seriously ill or injured at the worksite.</p> <p>Be prepared to provide the following information:</p> <ol style="list-style-type: none"> a. Nature of the accident or injury (avoid using victim's name). b. Type of assistance needed, if any (ground, air, or water evacuation). c. Location of accident or injury, best access route into the worksite (road name/number), identifiable ground/air landmarks. d. Radio frequencies. e. Contact person. f. Local hazards to ground vehicles or aviation. g. Weather conditions (wind speed & direction, visibility, temperature). h. Topography. i. Number of individuals to be transported. j. Estimated weight of individuals for air/water evacuation. <p>The items listed above serve only as guidelines for the development of emergency evacuation procedures.</p> <p style="text-align: center;">JHA and Emergency Evacuation Procedures Acknowledgment</p> <p>We, the undersigned work leader and crew members, acknowledge participation in the development of this JHA (as applicable) and accompanying emergency evacuation procedures. We have thoroughly discussed and understand the provisions of each of these documents:</p> <table style="width: 100%; margin-top: 10px;"> <thead> <tr> <th style="width: 25%; text-align: center;">SIGNATURE</th> <th style="width: 25%; text-align: center;">DATE</th> <th style="width: 25%; text-align: center;">SIGNATURE</th> <th style="width: 25%; text-align: center;">DATE</th> </tr> </thead> <tbody> <tr> <td style="border-top: 1px solid black; height: 20px;"></td> </tr> <tr> <td style="border-top: 1px solid black; height: 20px;"></td> </tr> <tr> <td style="border-top: 1px solid black; height: 20px;"></td> </tr> <tr> <td style="border-top: 1px solid black; height: 20px;"></td> </tr> <tr> <td style="border-top: 1px solid black; height: 20px;"></td> </tr> </tbody> </table>	SIGNATURE	DATE	SIGNATURE	DATE																				
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