



Chapter 03: Maintenance Operations

13. Hazardous Materials Handling and Disposal

Safely handle and dispose of hazardous materials in compliance with environmental regulations and safety standards.

Purpose

Establish systematic procedures for safe handling, storage, and disposal of hazardous materials used in aircraft maintenance operations. This process ensures compliance with environmental regulations, protects team member health and safety, and maintains responsible environmental stewardship throughout maintenance activities.

Roles and Responsibilities

A&P Mechanic:

- Execute assigned maintenance tasks per specifications
- Review work order technical requirements
- Provide technical input for work scope estimates
- Document completion status and discrepancies
- Ensure regulatory compliance in all maintenance work

Safety Officer:

- Monitor safety compliance across all operations
- Conduct safety investigations and reporting
- Coordinate safety training and certification
- Ensure regulatory safety compliance
- Authorize safety equipment and improvements

Chief of Maintenance:

- Review and approve complex or high-value work orders
- Assign qualified technicians to specific maintenance tasks
- Ensure regulatory compliance for all maintenance work
- Resolve scheduling conflicts and resource allocation issues
- Oversee maintenance quality and safety standards

Process Steps

Hazardous Materials Identification and Inventory

- **Maintain hazardous materials inventory** - Track all hazardous materials in use with Safety Data Sheets (SDS) and proper identification systems
- **Review material safety information** - Ensure current SDS are available and accessible for all hazardous materials used in maintenance operations
- **Classify materials properly** - Identify hazard classifications, storage requirements, and disposal procedures for each hazardous material
- **Monitor inventory levels** - Track usage patterns and maintain appropriate stock levels while minimizing hazardous materials inventory

Safe Handling and Storage Procedures

- **Implement proper storage methods** - Store hazardous materials in approved containers with proper ventilation, temperature control, and security measures
- **Use appropriate personal protective equipment** - Provide and require use of proper PPE including respirators, gloves, and protective clothing
- **Maintain spill response capabilities** - Keep spill cleanup materials readily available and ensure team members are trained in spill response procedures
- **Control access to hazardous materials** - Limit access to qualified personnel and maintain secure storage areas with proper signage

Waste Generation and Segregation

- **Segregate waste materials** - Separate different types of hazardous waste according to compatibility and disposal requirements
- **Use proper waste containers** - Store hazardous waste in appropriate containers with proper labeling and documentation
- **Document waste generation** - Maintain records of hazardous waste quantities, types, and generation dates for regulatory compliance
- **Monitor accumulation limits** - Ensure hazardous waste storage does not exceed regulatory time and quantity limits

Disposal Coordination and Documentation

- **Coordinate waste disposal services** - Schedule regular hazardous waste pickup with licensed disposal contractors

- **Prepare shipping documentation** - Complete required manifests, labels, and shipping papers for hazardous waste transportation
- **Verify disposal contractor credentials** - Ensure disposal contractors maintain proper licenses and certifications for waste handling
- **Maintain disposal records** - Keep complete documentation of all hazardous waste disposal activities for regulatory compliance

Emergency Response and Incident Management

- **Implement emergency response procedures** - Maintain emergency response plans for hazardous materials spills, exposures, and incidents
- **Provide emergency equipment** - Keep appropriate emergency response equipment including eyewash stations, safety showers, and spill cleanup materials
- **Train team members in emergency procedures** - Ensure all personnel know proper emergency response actions and notification requirements
- **Report incidents promptly** - Notify appropriate authorities and management of hazardous materials incidents according to regulatory requirements

Process Mapping

Flowchart to show sequential steps

Tools and Resources

- Safety Data Sheets (SDS) database and management system
- Hazardous materials inventory tracking and documentation software
- Personal protective equipment and safety equipment inventory
- Spill response kits and emergency cleanup materials
- Licensed hazardous waste disposal contractors and service agreements
- Regulatory compliance documentation and permit tracking systems
- Training materials and certification programs for hazardous materials safety
- Emergency response equipment and notification procedures

Success Metrics

- **Completion Time:** Hazardous waste disposal completed within regulatory time limits; emergency

response within 15 minutes.

- **Quality Standard:** 100% compliance with hazardous materials handling and disposal regulations.
- **Safety Standard:** Zero hazardous materials incidents or exposures affecting team member health or environmental impact.
- **Client Satisfaction:** Maintenance operations conducted without environmental compliance issues affecting client service.

Common Issues and Solutions

- **Issue:** Increasing costs of hazardous waste disposal affecting maintenance operation budgets
- **Solution:** Implement waste minimization procedures, evaluate alternative materials when possible, and negotiate competitive disposal service contracts


Issue: Team member resistance to personal protective equipment requirements affecting safety compliance


Solution: Provide training on hazardous materials risks, ensure comfortable and properly fitted PPE, and establish accountability measures for safety compliance


Issue: Difficulty staying current with changing environmental regulations affecting compliance


Solution: Subscribe to regulatory update services, maintain relationships with environmental consultants, and implement regular compliance audits

Safety Considerations

 **WARNING:** Never handle hazardous materials without proper personal protective equipment and safety procedures

 **CAUTION:** Ensure proper ventilation and emergency equipment are available when working with hazardous materials

 **NOTE:** All hazardous materials incidents must be reported immediately to safety personnel and appropriate authorities

 **BEST PRACTICE:** Minimize hazardous materials usage when possible and implement waste reduction procedures to reduce environmental impact

Regulatory References

- **29 CFR 1910.1200** - Hazard Communication Standard
- **40 CFR Part 262** - Standards Applicable to Generators of Hazardous Waste

- **29 CFR 1910.120** - Hazardous Waste Operations and Emergency Response
- **DOT Hazardous Materials Regulations** - 49 CFR Parts 100-185
- **EPA Resource Conservation and Recovery Act (RCRA)** - Hazardous waste management requirements
- **State Environmental Regulations** - Local hazardous materials and waste disposal requirements