



Title	ES-301-4.11 Storage, Handling, and Management of Hazardous Materials
Document Owner:	Kim Ohlson
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## **1) Activity Description: Storage, Handling, and Management of Hazardous Materials**

A hazardous material is any gas, liquid, or solid the exposure to which may cause harm to people, other living organisms, property, or the environment. A hazardous material may be flammable, explosive, toxic, reactive, corrosive, radioactive, bio hazardous, asphyxiating (causes suffocation), pathogenic, allergen, or may have other characteristics that render it hazardous in specific circumstances.

The handling and storage of hazardous chemicals/materials used on a regular basis must be done in a way that prevents the release and discharge of pollutants from indoor or outdoor storage areas to storm water or other media. Examples of activities that are covered by this guideline include: cargo handling; fueling; chemical storage and handling of painting or cleaning supplies; storage of materials, equipment, and vehicles; and pesticide/herbicide storage and use.

In addition, inventories of hazardous chemicals should be kept by each facility and may need to be reported to the local fire department and other emergency planning entities, depending on the quantities and hazardous nature of the materials being stored. See Emergency Planning and Community Right-to-Know Act (EPCRA) Threshold Planning Quantities.

This Environmental Guideline addresses procedures related to usable hazardous chemicals and materials. Reference ES-301-6.01 General Waste Management for proper waste handling procedures for materials that can no longer be used for their intended purpose.

## **2) Potential Environmental Risks**

- A. The following environmental concerns are associated with these activities:
  - i) Fuel or chemical spills reaching the storm water or sanitary system
  - ii) Air pollution and odors, both indoors and outdoors
  - iii) Improper or inappropriate disposal of hazardous materials or their derived wastes
  - iv) Improper disposal of contaminated spill response media
  - v) Contamination of soils
  - vi) Contamination of surface water
  - vii) Contamination of ground water
  
- B. Potential consequences from performing the activity incorrectly:
  - i) Personal injury to workers handling or exposed to the hazardous materials, damage to property, contamination of the environment
  - ii) Regulatory and judicial enforcement actions and related [financial & non-financial] penalties

## **3) Critical Operating Requirements**

- A. Prohibited Activities
  - i) Spills of any kind shall not be washed into any sewer or stormwater systems, or onto any soils.
  - ii) Discharge of any material down a storm drain, inlet, etc. or to a waterway without a CDPS permit is prohibited
  - iii) Discharge of the following materials down sanitary sewer drains is prohibited:

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- Any fuels, oils or grease, or other maintenance/cleaning fluids
  - Pesticides, insecticides, or herbicides
  - Solvents
  - Paints
  - Battery acids
  - Deicing/Anti-icing fluids
  - Fire-fighting chemicals (except during fire-fighting activities)
- iv) Use and disposal of aerosol cans may require certain management procedures specific to universal waste. These items should not be disposed of in the trash. See Environmental Guideline ES-301-6.01 General Waste Management.
- v) Disposal of any hazardous materials that are expired or that have been spilled, leaked, or otherwise handled improperly must be done in accordance with the appropriate "Waste" guideline(s). See ES-301-6.01 General Waste Management for further direction.

#### B. General Considerations

- i) Each airport tenant, contractor, and operator conducting hazardous material handling/storage activities is responsible for understanding the applicable regulations and managing their activities accordingly; this Environmental Guideline is meant as guidance and does not supersede any regulations.
- ii) It is recommended that each facility that handles and stores hazardous materials (in any quantity) develop a management plan that identifies each hazardous material, its storage location, and its proper handling during use. The plan should identify procedures to respond to any spill, leak, or other release that could reach any drains, harm employees, or contaminate any environmental media such as water, soil, or air.
- iii) Ensure that Safety Data Sheets (SDS) are readily available to all employees for all chemicals and products used. MSDS/SDS for materials no longer in use should be removed from active notebooks and placed in an archive.
- iv) Do not block or otherwise restrict the flow of air through any ventilation equipment within storage or work areas.

#### C. Training Requirements

- i) Each employee who is involved with the handling, storage, or use of hazardous materials should receive site-specific training in accordance with all applicable regulations. This includes:
  - Discussion of the materials that are considered hazardous in each work area
  - Discussion of methods of containment and safe storage
  - Discussion of prohibited activities
  - Discussion of appropriate or required personal protective equipment (PPE)
  - Storage and handling requirements
  - Response procedures for any spills or leaks
- ii) Employee training programs shall inform personnel at all levels of responsibility who are involved in industrial activities that may impact storm water runoff. Storm water training shall address topics such as spill response, good housekeeping, and material management practices. Contractor or temporary personnel shall be informed of facility operation and design features in order to prevent discharges or spills from occurring.
- iii) Appropriate OSHA training is required for non-City employees who handle hazardous chemicals in the course of their jobs.

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- iv) City employees who handle hazardous chemicals in the course of their jobs must complete the City-required hazard communication training program, as directed by DEN's Risk and Safety Services Unit.

D. Storage and Materials Management Requirements

- i) Store materials indoors or protect materials stored outside from exposure that could compromise containers or allow contact with storm water; use overhead cover, storage cabinets, etc.
- ii) Transfer liquids on paved areas where possible; areas paved in concrete should be utilized if the material is asphalt reactive.
- iii) Avoid entirely or minimize the transfer of materials in areas near drain inlets; use temporary covers on storm drains when handling materials outside to prevent spills from reaching the storm water system.
- iv) Store hazardous material drums and containers on pallets or within berms or secondary containment systems to prevent leaks and spills from entering storm water runoff and to enable easier inspection and detection of leaks.
- v) Utilize methods to contain and absorb materials from leaks, spills, and hose disconnects that occur during material transfers; dispose of spill cleanup residue properly.
- vi) Ensure adequate spill cleanup supplies are stocked in the areas where material transfers take place.
- vii) Ensure that SDS are readily available to employees who handle, transfer, or are otherwise involved in the management of hazardous materials.
- viii) Provide safeguards against accidental or intentional releases by restricting access to storage areas, implementing an inspection and maintenance program, practicing good housekeeping procedures, and using covered bins or dumpsters specifically dedicated to hazardous materials disposal.
- ix) Maintain legible labels and markings on all containers and tanks; labels on all containers must have the name of the owner of the container, an associated contact telephone number, an appropriate hazard warning, and must clearly indicate the contents. In addition, the name on the label must match the name on the corresponding SDS.
- x) Ensure adequate secondary containment for all bulk storage containers, and ensure that all containers, secondary containment, and berms are in good operating condition.
  - o Refer to the appropriate SPCC Plan for guidance on specific requirements, if applicable.
- xi) Outdoor storage and handling of hazardous materials shall be in accordance with procedures established in any storm water permit and storm water management plan that is applicable to the facility.

**4) Planning Requirements**

- A. Ensure that all storage and handling areas are always stocked with appropriate spill response materials.
- B. Obtain appropriate hazardous materials storage permit(s) from the Denver Fire Department.
- C. An inventory of all hazardous chemicals/materials, or products containing hazardous chemicals, must be kept by the facility in accordance with the Emergency Planning and Community Right -

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to-know Act (EPCRA). This inventory must be kept in such a way that notification can be made to the Colorado Emergency Planning Commission (CEPC) and Local Emergency Planning Committee (LEPC) within 60 days of exceeding Threshold Planning Quantities (TPQs) established in the EPA's List of Lists or Denver's LEPC threshold quantities.

- D. The Denver Fire Department (DFD) requires that an inventory of hazardous chemicals/materials, or products containing hazardous chemicals be kept and reported under the DFD's Hazardous Materials Inventory System (HMIS) and submitted annually to the DFD by March 31.
- E. Facilities that store chemicals in certain quantities are to provide specific information about the chemicals on site to the CEPC, LEPC, and local FD in the form of what is referred to as a Tier II report. This report is due annually by March 1, covering the preceding calendar year. The report should contain information on every chemical for which an EPCRA Section 302 threshold planning quantity (TPQ) is exceeded or for any hazardous substance present on site in excess of 10,000 pounds at one time. (Note: This requirement is applicable to facilities that must comply with OSHA's Hazard Communication Standard to have SDS available on site; City facilities are exempt from OSHA requirements.)
- F. Complete the Storm water Management Plan (SWMP) survey/matrix to assist in determining the Environmental Guideline(s) applicable to the activity.
  - This document is available at <http://business.flydenver.com/environmental>.
  - If applicable, the operator will need to decide whether to operate under the DEN SWMP or generate their own SWMP for review by DEN ES.

## 5) **Critical Tasks**

- A. Ensure that materials are stored and handled on containment pallets, paving, or other impervious surface in areas away from storm water inlets, trench drains, or any other drains that route to the storm water system.
- B. Properly secure all hoses, valves, and equipment when transporting materials, to eliminate leakage or spills.

## 6) **Emergency Response**

- A. If a spill occurs, refer to Environmental Guideline ES-301-5.02 Spill Response.
  - i) Call DEN Communications Center immediately at 303-342-4200 for all spills.

## 7) **Inspection and Maintenance Requirements**

- A. Perform and document all inspections of storage areas or materials handling events.
- B. Inspections of hazardous materials storage areas are recommended weekly for correct materials management, containment, security, cleanliness, access, correct labeling, storage duration, spills, and leaks.

## 8) **Expected Records and Outputs**

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- A. Completed SWMP survey/matrix
  - i) Obtain a blank copy of this document from <http://business.flydenver.com/environmental>.
- B. EPCRA and Hazardous Materials Inventory records/reports
  - i) City facility records of quantities of hazardous materials and copies of Reports to Denver’s LEPC, the Colorado Emergency Planning Commission, and the DFD shall be kept in the DEN Environmental Services file under ES 09.33.
- C. Hazardous materials storage and handling records (weekly inspections of storage areas and containers, etc.)
  - i) Operator should maintain inspection records at the facility for a minimum of 3 years.
- D. Waste management records (profiles, manifests, sample results, etc.)
  - i) Based on the disposal profile, manifests and related forms may be required. Manifests and profile forms can be obtained from the disposal facility for off-site disposal activities (manifests **are required** for hazardous waste).
  - ii) Operator must maintain waste management records at the facility for a minimum of 3 years
- E. Evidence of training
  - i) While formal certifications are not always necessary, some form of “proof of training” (such as sign-in sheets and handouts) is expected and should be maintained on file by the operator.

**9) References**

- A. Phone Numbers
  - i) DEN Communications Center (for spill reporting) (303) 342-4200
  - ii) DEN Environmental Services (Main Line) (303) 342-2730
  - iii) Kim Ohlson (DEN Environmental Services) (303) 342-2637
  - iv) Stephen Thompson (DEN Safety Manager)
- B. Guidance Materials (list is not limited to the following)
  - i) DEN Storm water Management Plan (SWMP)
  - ii) MSDSs/SDS
  - iii) DOT Labeling and Placarding Guidance
- C. Training Materials (list is not limited to the following)
  - i) Operating procedures training (on-the-job)
  - ii) Operator site-specific training materials for handling hazardous materials
  - iii) Annual Industrial Storm water Pollution Prevention training
- D. Related Environmental Documents (list is not limited to the following)

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- i) ES-301-1.07 Storage of Vehicles and Equipment Containing Chemicals
  - ii) ES-301-5.02 Spill Response
  - iii) ES-301-6.01 General Waste Management
- E. Applicable Regulations (list is not limited to the following)
- i) 40 CFR 355 Emergency Planning and Notification
  - ii) 40 CFR 370 Hazardous Chemical Reporting: Right to Know
  - iii) 40 CFR 110.3 Discharge of Oil
  - iv) 40 CFR 112 Oil Pollution Prevention (SPCC/FR Plans)
  - v) 40 CFR 117.3 Determination of Reportable Quantities for a Hazardous Substance
  - vi) 40 CFR 122-124 NPDES Regulations for Storm water Discharges
  - vii) 40 CFR 401 Effluent Limitation Guidelines
  - viii) 6 CCR 1007-3, Part 261 State RCRA Regulations
  - ix) RCRA Subtitle D Storage Requirements
  - x) State Air Quality Regulations (5 CCR 1001-5)
  - xi) Denver Fire Department Hazardous Materials requirements
  - xii) DEN Rules & Regulations
- F. Other Documents (list is not limited to the following)
- i) SWMP Industrial Activities Survey/Matrix & Instructions

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