



Title	ES-301-2.04 Painting and Paint Removal
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Revision Date:	March 5, 2020

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1) Activity Description:

The management of any materials generated during painting or paint removal and cleanup activities, including hazardous and non-hazardous wastes, solvents, pigments, and debris.

2) Potential Environmental Risks

- A. The following environmental concerns are associated with these activities:
 - i) Air pollution and odors
 - ii) Releases to sanitary sewer and the environment
 - iii) Improper or inappropriate disposal of waste paint
 - iv) Improper or inappropriate disposal of paint thinners and solvents
 - v) Improper or inappropriate disposal of used paint materials (filters, brushes, etc.)
- B. Potential consequences from performing the activity incorrectly:
 - i) Property damage, personal injury or damage to the environment
 - ii) Possible regulatory non-compliance, Notice of Violation and related [financial & non-financial] penalties

3) Critical Operating Requirements

- A. Prohibited Activities
 - i) Disposal of hazardous paint waste is prohibited without the following:
 - o EPA Generator Identification Number
 - o Completed Land Disposal Restrictions (LDR) form
 - o Hazardous Waste Profile and receiving facility acceptance forms
 - o Hazardous Waste Manifest
 - ii) Disposal of used paint booth filters and paint rags and other paint activity related wastes in the trash is restricted or prohibited. These materials may be considered hazardous waste and must be handled and disposed of with all proper considerations. If non-hazardous, the materials may still require evaluation as a special waste.
 - iii) Do not dispose of paint wastes or solvents into any drain.
 - iv) **Use of VOC or solvent-based paints at DEN is discouraged. Use of non-volatile or aqueous (water-based) coatings wherever possible is expected.** VOC or solvent-based paints are acceptable only where technical substitution is not available or practicable.
 - v) Vehicle Painting – Vehicle painting is prohibited except in DEN-approved vehicle painting facilities.
- B. General Considerations
 - i) Every entity conducting any painting activities is responsible for understanding the applicable regulations and managing their activities accordingly; this Environmental Guideline is meant as guideline only and does not supersede any regulations.
 - ii) Reasonable efforts should be made to continually increase the utility and efficiency of paint container systems and reduce waste generation volumes and toxicity.
 - o Research available paint container systems to increase ease of handling and management of painting materials
 - o Use recyclable or returnable paint containers whenever possible

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- Research available coating products for reduced waste and air emission characteristics
- Reuse grit blast material whenever practical; when it is no longer usable, dispose of properly
- iii) When removing paint, collect and dispose of all removed paint, grit, and any other related wastes properly
 - When removing paint outdoors, use protective barriers to control overspray from unnecessarily contaminating the air and/or stormwater collection system. Specify the use of non-solvent paint removal practices
- iv) When cleaning painting equipment, containerize and control all generated wastes for proper disposal
 - Strategize to segregate waste materials for cost-efficient disposal
 - Avoid contaminating sanitary and stormwater drainages with cleanup debris, solvents, and other waste materials
- v) Properly characterize and dispose of paint-related wastes, such as paint rags and paint booth filters. See ES-301-6.01 General Waste Management for additional guidance.

C. Training Requirements

- i) Formal training and certification may be required depending on generator status
- ii) Employee training programs shall inform personnel at all levels of responsibility who are involved in industrial activities that may impact stormwater runoff. Stormwater training shall address topics such as spill response, good housekeeping, and material management practices. Contractor or temporary personnel shall be informed of plant operation and design features in order to prevent discharges or spill from occurring.

D. Storage and Materials Management Requirements

- i) Properly label all paint and paint removal supplies and store in areas with secondary containment and proper signage and support systems.

4) Planning Requirements

- A. Purchase and use paints without lead, chromium, and other heavy metals, as well as paints with low volatile organic compound (VOC) content whenever possible. Continually investigate low VOC and lower toxicity replacement coating materials.
- B. Confirm that an MSDS for any new paint and/or painting materials has been received and made available to employees. Periodically review and update MSDSs for all products in use. The formulations for specific products may change over time. Send any new or updated MSDSs to DEN Environmental Services (ES).
- C. Review air permitting regulations before beginning any painting operations to determine if an Air Pollutant Emission Notice (APEN) is required.
- D. Maintain adequate supplies of spill response equipment and materials in locations where spills of paint and solvent materials are likely to occur. Use good painting and coating spill prevention and control practices.
- E. Painting personnel shall be trained in all environmental impacts resulting from their operations, including waste minimization and management, materials selection, and materials cleanup procedures.

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- F. Any entity conducting work at DEN must obtain prior written approval from DEN ES for the use of any non-aqueous paint and associated solvents or additives to be used in airfield markings or any other application. The entity shall provide in its request for use: the MSDS for the proposed product, its plan for the management of all wastes to be generated from the activity, and proposed disposal sites for the waste.

5) **Critical Tasks**

- A. Review painting operations for environmental regulatory processes with an emphasis on air permitting, waste characterization, and subsequent compliance management.
- B. Review material handling to minimize hazardous waste generation and to determine recordkeeping requirements.
- C. A waste profile must be completed and accepted by the disposal facility before any hazardous waste materials can be shipped.

6) **Emergency Response**

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

7) **Inspection and Maintenance Requirements**

- A. Hazardous paint waste storage areas must conform to regulatory requirements per ES-301-6.04 Management of Hazardous Wastes
- B. Operators are expected to inspect their procedures, operations, and records for inventory quality, efficient and safe work practices, materials handling, storage and disposal to assure knowledge of compliance results.
- C. Properly maintain equipment

8) **Expected Records and Outputs**

- A. Waste generation inspection reports
 - i) Inspections should be documented and maintained on file by the operator. This pertains to locations where product is converted into wastes. This includes product storage, preparation, application, and cleanup areas.
- B. Waste accumulation and storage area inspection reports
 - i) Pertains to waste accumulation and storage areas
 - ii) Generators are responsible for adequate inspection reports. Inspection forms should be maintained on site by the generator
- C. MSDSs
 - i) Manufacturers of coating products will supply these documents on demand. MSDSs for coating products should be made available to all employees engaged in painting activities and maintained on file by the Operator at the facility.
- D. Air permits (as required)

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- i) An APEN may be required for paint booth operations
 - ii) Operators are responsible for acquiring and maintaining applicable air permits and maintaining records
- E. Air emissions reporting data (paint usage volumes)
- i) Paint usage data from the DEN Paint Booth is generated on site and submitted to DEN ES monthly.
 - ii) Operators are responsible for maintaining applicable records on air permitting requirements
- F. Disposal Manifest(s), LDR and Shipping documentation
- i) Based on the disposal profile, manifests and related forms may be required. Manifests, LDR and profile forms can be obtained from the disposal facility for off-site disposal activities (manifests **are required** for hazardous, special and universal waste).
 - ii) The Operator should maintain all disposal documents on file for at least 3 years.
- G. Evidence of training
- i) While formal certifications are not always necessary, depending on generator status, some form of “proof of training” (such as sign-in sheets and handouts) is expected and should be maintained on file by the operator
- H. Waste Management Plan
- i) DEN policy requires for the use of any non-aqueous paints or products. Plan must be approved by DEN ES prior to its use.

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) Jeff Arneson (DEN Environmental Services) (303) 342-2630
- B. Training Materials (list is not limited to the following)
- i) RCRA Waste Management Training
 - ii) Stormwater Management Plan
 - iii) Manufacturer’s MSDS information and Equipment Specifications
- C. Related Environmental Documents (list is not limited to the following)
- i) ES-301-5.02 Spill Response
 - ii) ES-301-6.01 General Waste Management
 - iii) ES-301-6.04 Management of Hazardous Wastes
 - iv) ES-301-6.05 Management of Universal Wastes
- D. Applicable Regulations (list is not limited to the following)
- 40 CFR 260-279, RCRA Hazardous Waste Regulations
 - 6 CCR 1007-3, Colorado Hazardous Waste Regulations
 - 5 CCR 1001-2,-3, and -5, Colorado Air Quality Regulations

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- Colorado State Air Permit, 99DE0142 (City Facilities only)
 - (DEN) Air Permit Compliance Plan, EMS Work Instruction ES-308-01.01 (DEN Facilities only)
 - D.R.M.C Title II, Chapter 4, Air Pollution Control, Article III
 - 29 CFR Part 1910 OSHA
 - 49 CFR 100 – 185 DOT Regulations
 - 40 CFR 117.3 Determination of Reportable Quantities for a Hazardous Substance
 - 40 CFR 122-124, NPDES Regulations for Storm Water Discharges
 - 40 CFR 401 Effluent Limitation Guidelines
 - Denver Wastewater Management Division Rules and Regulations
 - Metro Wastewater Reclamation District Rules and Regulations
 - DEN Rules and Regulations
- E. Other Documents (list is not limited to the following)
- DEN Tenant Policy on Aircraft Parking Position Painting
 - Materials of Selection MSDS sheets and other manufacturer specification information
 - APEN Forms
 - Purchase Orders and Inventory reports
 - Inventory distribution reports and daily painting logs
 - DEN Materials Management Plan
 - DEN Manager’s Bulletins

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