

# Painter Training Module for Environmental Compliance with

National Emissions Standards for Hazardous Air Pollutants:

*Area Source Rule for Paint Stripping and  
Miscellaneous Surface Coating Operations*

**[date], 2009**

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# Course Overview

- Background on Federal Air Emissions Regulations
- Development of the Area Source Rule for Paint Stripping and Miscellaneous Surface Coating (40 CFR 63, Subpart HHHHHH – hereinafter referred to as “the Rule”)
- Scope of the Rule – Who must comply?
- Requirements for the use of methylene chloride (MeCl) in paint stripping activities

# Course Overview (continued)



- Requirements for surface coating activities
  - **Painters are required to receive training on environmental compliance with the Rule**
- Recordkeeping Requirements
- Notification and Reporting Requirements
- Important Dates for Complying with the Rule

*After Completing This Course...*

**You will be among the first painters in Georgia trained on complying with this Rule!**

# Background - Federal Air Emissions Regulations



- The Clean Air Act of 1970 (CAA) authorized the U.S. Environmental Protection Agency (EPA) to regulate air emissions from various air pollution sources.
- EPA identified 188 specific hazardous air pollutants (HAPs or “air toxics”) that cause serious health and environmental hazards.
- EPA identified more than 30 HAPs that pose the greatest potential health threat in urban areas.
- EPA identified various industry sectors and operations that are associated with the release of these HAPs.



# Background (Continued)



- Sources of air toxics are categorized as either major sources or area sources.
- *Major sources* are those that individually:
  - Emit 10 or more tons per year of a single HAP
  - or
  - Emit 25 or more tons per year of multiple HAPs
- Major sources have strict requirements on their use and control of HAPs – rules are based on Maximum Achievable Control Technology (MACT).

# Background (Continued)



- *Area sources* are not major sources (i.e., they individually emit smaller quantities of HAPs than major sources).
- Area sources, although individually small, may be located in area “clusters” – particularly in *urban* settings – and their aggregate emissions may contribute to adverse human and environmental health effects.
- MACT-based standards must be considered; however, EPA may establish area source rules that are based on Generally Available Control Technology (GACT), at a minimum.

# Development of the *Paint Stripping and Miscellaneous Surface Coating* Area Source Rule (“the Rule”)



- Regulatory history:
  - National volatile organic compound (VOC) standards for refinish coatings established in 1998.
  - HAP standards established for major sources in 2004.
  - Area source rule for paint stripping and surface coating activities was finalized on January 9, 2008.
- The Rule requires the use of best management practices (BMPs) – considered to be GACT – to reduce air emissions from paint stripping and surface coating activities.

The Rule specifically identifies the *automotive collision repair and refinishing* sector as being subject to the provisions of the Rule.



**Why?**





# Hazardous Air Emissions from U.S. Industries

*Figures are toxic-weighted (cancer effects) tons per year*



<b>Agricultural Chemicals &amp; Pesticide Mfg</b>	<b>312</b>
<b>Pharmaceutical Production</b>	<b>523</b>
<b>Paint &amp; Allied Products Mfg</b>	<b>2,393</b>
<b>Industrial Boilers</b>	<b>2,582</b>
<b>Flexible Polyurethane Foam Operations</b>	<b>5,289</b>
<b>Autobody Refinishing</b>	<b>45,456</b>

Source: EPA area source category list; included in the Spray Technique Analysis Training and Research (STAR®) program's *Increased Profits Through Efficient Spraying*; presented in May 2008 by Pacific Northwest Pollution Prevention Resource Center (PPRC) – see link provided at the end of this presentation.



# Development of the Rule (Continued)

EPA identified five primary hazardous air pollutants or *target HAPs* associated with automotive refinishing operations that contribute significantly to toxic air pollution:

Chromium

Nickel

Lead

Cadmium

Manganese



# Selected Regulatory Definitions

- **Area source** – *any stationary source of hazardous air pollutants (HAPs) that is not a major source*
- **Major source** – *any stationary source that has the potential to emit, with controls, 10 or more tons per year of any single HAP or 25 or more tons per year of a combination of HAPs.*
- **Target HAPs for the Rule** – *compounds of chromium, lead, manganese, nickel, and cadmium, which can be ingredients of spray-applied coatings.*



# Regulatory Definitions (continued)

- **Paint stripping operation** – *removal of dried coatings from wood, metal, plastic and other substrates.*
- **Motor vehicle and mobile equipment surface coating operation** – *spray application of coatings to assembled motor vehicles or mobile equipment (does not include equipment parts or subassemblies at an assembly plant or parts manufacturing plant).*
  - **Examples of MVs** – *automobiles, light duty trucks, golf carts, vans, motorcycles.*
  - **Examples of ME** – *heavy duty trucks, truck trailers, fleet delivery trucks, buses, mobile cranes, bulldozers, street cleaners, ag equipment, motor homes and other recreational vehicles.*

# Regulatory Definitions (continued)



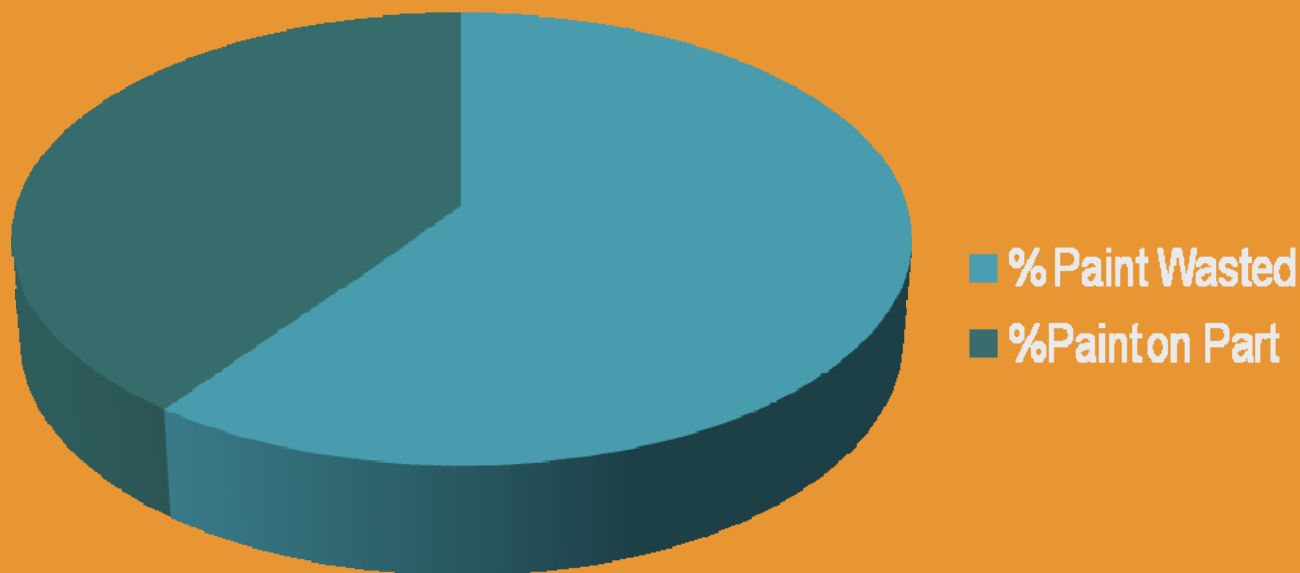
- **Miscellaneous surface coating operation** – *collection of equipment used to apply surface coating to parts/products made of metal or plastic, including:*
  - *Applying cleaning solvents for surface preparation*
  - *Mixing coatings prior to application*
  - *Applying coatings to parts/products*
  - *Drying/curing coatings after application*
  - *Cleaning coating application equipment*

# Why Is the Rule Important?



- ★ **Health impacts:** Heavy metals, solvents, and other ingredients in automotive finishes can negatively affect your health and the community's health.
- ★ **Environmental impacts:** Volatile organic compounds (VOCs, solvents) are air pollutants that produce unwanted ozone.
- ★ **Material savings:** Many of the BMPs required by the Rule can result in overall material savings (e.g., by improving spray efficiency and reducing overspray).
- ★ **It's the Law!**

## 100% Total Paint Used



Conventional Spray Equipment and  
Techniques:  
40% Transfer Efficiency

# Who is Subject to the Rule?

The Rule applies to **3 area source categories**:

- **Paint stripping** – use of chemical strippers that contain methylene chloride (MeCl) to remove dried paint (e.g., paint, enamel, varnish, shellac, lacquer) from wood, metal, plastic, and other substrates.
- **Motor vehicle and mobile equipment surface coating** - spray application of coatings to MVs/ME for the purposes of finishing or refinishing.
- **Miscellaneous surface coating** - spray application of coatings that contain the target HAPs to plastic or metal parts and products (other than motor vehicles or motor equipment).







# Exempt Activities

- Coating or paint stripping performed at U.S. military installations.
- Coating or paint stripping of military munitions or equipment used exclusively for transporting military munitions.
- Coating or paint stripping performed by individuals on their personal vehicles, unless more than 2 vehicles or parts per year are painted.
- Coating or paint stripping that is considered a “research or laboratory” or “quality control” activity.
- Coating activities that are considered to be “facility maintenance”.
- Miscellaneous surface coating of a space vehicle.



## Exempt Activities (continued)

- Miscellaneous surface coating operations that do not involve the use of the target HAPs.

***NOTE:*** The Rule applies to **all** motor vehicle and mobile equipment spray-applied surface coating operations.

Shop owners may petition the EPA Administrator for an exemption from the Rule by demonstrating that no coatings containing the target HAPs are spray-applied at the shop.



# What Does the Rule Require?

1. Use of specific practices to minimize evaporative losses of MeCl from paint strippers.
2. Use of specific practices to minimize paint overspray and other sources of paint emissions.
3. Painter training on the required BMPs and compliance with the Rule.
4. Recordkeeping.
5. Notification and reporting.

# Paint Stripping Requirements

**All shops using any quantity of MeCl-containing stripper are required to implement these practices:**



- Minimize MeCl use – evaluate each job on the need for paint stripping.
- Avoid using MeCl-containing paint strippers when an alternative stripping method or material is capable of accomplishing the work. Consider alternative stripping methods:
  - Non- or low-MeCl-containing chemical strippers
  - Mechanical stripping
  - Blasting (including dry or wet media)
  - Thermal and cryogenic decomposition
- Reduce exposure of all MeCl-containing paint strippers to the air.
- Optimize application conditions to reduce MeCl evaporation (e.g., minimize working temperatures).
- Practice proper storage and disposal of MeCl-containing strippers.
- Maintain records of annual usage of MeCl-containing strippers.

# Paint Stripping Requirements

*Additional requirements for area sources using more than 1 ton per year MeCl*



- Must develop a written MeCl minimization plan.
- Post placard/sign outlining the plan in areas where paint stripping activities are performed.
- Must retain a copy of the plan on site.
- Review the plan annually and update as necessary.

# Surface Coating Requirements



- Coatings must be applied in a prep station, spray booth, or mobile enclosure.
- Prep station/spray booth/mobile enclosure must include filter technology capable of achieving at least 98-percent capture of paint overspray from the exhaust.
- Spray booths and prep stations that are large enough to hold a *complete vehicle* must be fully enclosed (four complete walls/curtains and full roof) and must be ventilated at negative pressure or (if sealed) operated at up to 0.05 in water gauge positive pressure.

# Surface Coating Requirements (Continued)



- Spray booths and prep stations used to coat *miscellaneous parts/products or vehicle subassemblies* must have at least three complete walls/curtains and full roof, and must be ventilated at negative pressure.
- *Mobile ventilated enclosures* (e.g., for spot repairs) must enclose and if necessary, seal against the surface around the area being coated.

# Surface Coating Requirements (Continued)



- All spray-applied coatings must be applied with:
  - High volume, low pressure (HVLP) spray gun;
  - Electrostatic application;
  - Airless spray gun;
  - Air-assisted airless spray gun; or
  - An equivalent technology demonstrated to achieve equivalent transfer efficiency to those listed above (must obtain written approval by the EPA Administrator).





# Surface Coating Requirements (Continued)



- All spray gun cleaning must be performed in such a way that the cleaning solvent or residual coating is not atomized (sprayed) directly into the air.
  - Use an enclosed spray gun cleaner
  - Disassemble and clean by hand
- **Never spray cleaning solvent through the gun!**





# Painter Training Requirements

Training must consist of both hands-on and classroom instruction on the following topics:

- Spray gun equipment selection, set up, operation, and cleaning.
- Spray application technique for various types of coatings that maximizes transfer efficiency and minimizes coating usage.
- Spray booth maintenance, including filter selection, installation and maintenance.
- **Environmental compliance with the requirements of the Rule.**

# Painter Training Requirements (Continued)



Each owner/operator of an affected surface coating source is responsible for ensuring and certifying that all onsite painters have completed the required training for the Rule.

**The training requirement applies to all new and existing painters, including contractors.**

Owners/operators must also maintain:

- A list of the names and job descriptions of all current painters who are required to be trained; and
- A description of the methods used to demonstrate, document and provide certification of successful completion of the required training.

# Painter Training Requirements (Continued)



- Initial training is valid for 5 years.
- Refresher training is required every 5 years.
- *Documentation of initial and refresher training is required to be maintained by the owner/operator.*

# Recordkeeping Requirements



All sources (owners/operators) must keep sufficient records demonstrating compliance at all times. These include the following:

- Records indicating that each painter has completed the required training, including the dates of the initial training and the most recent refresher training.
- Documentation of the filter efficiency of all spray booth exhaust filter material (e.g., data from the filter manufacturer).
- Records of MeCl-containing paint strippers: MeCl content and annual usage of each.

# Recordkeeping Requirements (Continued)



- Copies of all notifications or reports that were submitted to U.S. EPA or other regulating agency.
- Records of deviations from the requirements of the Rule, including a description of the nature of the deviation and the actions taken to correct the deviation.
- Records of compliance assessments (e.g., performed in support of required notifications).
- Each record item must be maintained for at least five years.

# Reporting Requirements



At least two forms of notification are required to be completed and mailed to U.S. EPA Region 4 in Atlanta:

- Initial Notification
- Notification of Compliance Status
- Submittal dates for these forms depend on whether the source is new or “existing”.

May also be required to submit an Annual Notification of Changes Report – if changes or deviations have occurred.

# Summary of Compliance Dates



<b>Requirement</b>	<b>Existing Source Operating on or before Sept. 17, 2007</b>	<b>New/Reconstructed Source Commenced construction after Sept. 17, 2007</b>
Compliance with the Rule	January 10, 2011	January 9, 2008 <i>or date of initial start up</i>
Completion of Painter Training	180 days after hiring or July 10, 2011 <i>(whichever is later)</i>	180 days after hiring or July 7, 2008 <i>(whichever is later)</i>
Initial Notification	January 11, 2010	180 days after start up or July 7, 2008 <i>(whichever is later)</i>
Notification of Compliance Status	March 11, 2011	180 days after start up or July 7, 2008 <i>(whichever is later)</i>





# Information Resources

- **Georgia's Small Business Environmental Assistance Program** – information and assistance with compliance, reporting forms [www.gasmallbiz.org](http://www.gasmallbiz.org)
- **U.S. EPA's Area Source Standards** – [www.epa.gov/ttn/atw/area/arearules.html#gen](http://www.epa.gov/ttn/atw/area/arearules.html#gen)
- **U.S. EPA's Collision Repair Campaign** – [www.epa.gov/air/toxicair/community/collision.html](http://www.epa.gov/air/toxicair/community/collision.html)
- **U.S. EPA's Design for the Environment (DfE) Automotive Refinishing Partnership** – [www.epa.gov/dfe/pubs/projects/auto/index.htm](http://www.epa.gov/dfe/pubs/projects/auto/index.htm)
- **STAR® Program's May 2008 presentation on efficient spray techniques** – [http://pprc.org/webinars/downloads/NESHAP\\_STAR\\_Webinar.ppt](http://pprc.org/webinars/downloads/NESHAP_STAR_Webinar.ppt)