REGULATORY UPDATE

Presented to Mechanical Association Railcar Technical Services Conference

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The Sherwin-Williams Company
OVERVIEW

HOW DID WE GET HERE?
IN THE BEGINNING....

VOC REQUIREMENTS: CALIFORNIA VERSUS THE REST OF THE COUNTRY

HAZARDOUS AIR POLLUTANTS -
MAJOR SOURCES
AREA SOURCES
RESIDUAL RISK

WHAT NEXT?
THE BEGINNING
HOW / WHERE DID IT ALL START?
LONDON KILLER FOG OF 1952
LONDON KILLER FOG OF 1952
Environmental Timeline

400 B.C.*Airborne lead from Roman smelters pollutes Northern Europe
1943*First smog episode in Los Angeles, CA
1952**"Killer Fog" claims 4,000 lives in London, England
1955*Air Pollution Control Act
1967*Federal Clean Air Act requires states to meet air quality standards
1969*Cuyahoga River in Cleveland, OH catches fire
    *Clean Air Act amendment creates stringent anti-pollution laws; sets auto emissions standards
1970*U. S. Environmental Protection Agency created with 5,000 employees and $1.3 billion budget
1971*National lead-based paint restrictions passed
1978*Love Canal declared "grave and imminent peril"
    *Methyl isocyanate cloud from Union Carbide plant accident in Bhopal, India kills more than 2,000 people
1984*Giant "hole" in the ozone layer reported over the Antarctic
1985*Chernobyl nuclear reactor explosion triggers worst release of radioactive materials in history;
1986*Exxon Valdez spills nearly 11 million gallons of crude oil into Alaska’s Prince William Sound
1989*Clean Air Act amendments begin reduction of acid rain, CFCs
CALIFORNIA SUGGESTED CONTROL MEASURE FOR AUTO REFINISH COATINGS
CA SCM

Adopted Oct. 2005

Applies to application of coatings during refinish, not during manufacture “on an assembly line”

Applies to coatings used on motor vehicles or mobile equipment during refinishing, service, maintenance, repair, restoration or modification
CA SCM

Mobile equipment is defined as any device that may be drawn and/or driven on rails or a roadway e.g. *trains, railcars, locomotives*, truck trailers, mobile cranes, bulldozers, etc.

Motor vehicle is defined as any self-propelled vehicle, e.g. cars, trucks, buses, golf carts, motorcycles, tanks, armored personnel carriers, etc.
CA SCM

Means: where adopted, VOC limits & other requirements in SCM must be complied with during servicing & repair of rail cars, and etc.

VOC content limits became effective 1/1/2009 and 1/1/2010.
CA SCM

Applies in 32 (of 59) counties in CA
Includes all CA large cities e.g. LA San Francisco, Sacramento, San Diego, etc.
CA SCM – Application Methods

Application only by
   Brush, dip, or roller
   Electrostatic spray
   HVLP spray
Spray gun designed, labeled & operated
0.1-10 #/in² gauge air atomizing pressure

Alternative methods with equivalent transfer efficiency, approved by CARB
CA - Surface Prep.

Solvents used to prep. surface limited to 0.21 #/gal (25 g/l) in much of the State.

A couple very small areas limit surface prep. cleaners to 0.6 or 1.67 #/gal (72 or 200 g/l).
CA- Spray gun cleaning

Most clean up solvents limit: 25 g/l
Most require enclosed gun washer
## CA SCM - VOC limits

<table>
<thead>
<tr>
<th>COATING CATEGORY</th>
<th>g/L [lbs/gal]</th>
</tr>
</thead>
<tbody>
<tr>
<td>Adhesion Promoter</td>
<td>540 [4.5]</td>
</tr>
<tr>
<td>Clear Coating</td>
<td>250 [2.1]</td>
</tr>
<tr>
<td>Color Coating</td>
<td>420 [3.5]</td>
</tr>
<tr>
<td>Multi-color Coating</td>
<td>680 [5.7]</td>
</tr>
<tr>
<td>Pretreatment Coating</td>
<td>660 [5.5]</td>
</tr>
<tr>
<td>Primer</td>
<td>250 [2.1]</td>
</tr>
<tr>
<td>Primer Sealer</td>
<td>250 [2.1]</td>
</tr>
<tr>
<td>Single-stage Coating</td>
<td>340 [2.8]</td>
</tr>
<tr>
<td>Temporary Protective Coating</td>
<td>60 [0.5]</td>
</tr>
<tr>
<td>Truck Bed Liner Coating</td>
<td>310 [2.6]</td>
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<tr>
<td>Underbody Coating</td>
<td>430 [3.6]</td>
</tr>
<tr>
<td>Uniform Finish Coating</td>
<td>540 [4.5]</td>
</tr>
<tr>
<td>Any Other Coating Type</td>
<td>250 [2.1]</td>
</tr>
</tbody>
</table>
CA - Toxic Emissions from Mobile Equipment Coatings

Mobile equipment is defined as any device that may be drawn and/or driven on rails or a roadway e.g. trains, railcars, locomotives, truck trailers, mobile cranes, bulldozers, etc.

Prohibits use of coatings with hexavalent chromium or cadmium [introduced to impart a property or characteristic, e.g. in a pigment]
CA Rules – Spreading east

Has spread outside state to
OTC states (northeast)
Model Rule – includes rail
DE – no
MD – yes
[NY – no]
Utah (eff. 7/1/2014) – no
Canada – no
HAZARDOUS AIR POLLUTANT REGS.

Major Sources vs. minor sources

Major sources
- PTE 10 tons/yr one HAP
- PTE 25 tons/yr all HAPS

Minor sources
- Did not meet major definition
- Became a synthetic minor by permit
HAPs – Which rules apply to devices drawn or driven on rails?

Does Auto Refinish rule apply, like CA?
NO!!!

Thank you, EPA!

HAP rule-Misc. Metal Parts
HAP Rule - Misc Metal

Jan. 2, 2004

Applies to majors sources using 250 gal/yr of coatings w/ HAPs

Established general VOHAP limits

New: 1.9# VOHAP/gal solids
Existing: 2.6# VOHAP/gal solids
during each 12-month period

Includes coatings, thinners, additives, and cleaning materials
HAP Rule – Misc Metal

Three compliance options:

1. **Compliant materials**
   1. Coatings < emission limit
   2. Thinners, additives, cleaners = 0 HAPS

2. **Emission Rate**

3. **Emission Rate with add-on controls**
HAPS - Area Sources

40 CFR 63
Subpart HHHH HHHH [6H]
Misc. Surface Ctg. Operations at Area Sources
Ctg at Area Sources

Applies to all area sources
Area source is not a major source & not located at or part of a major source

Compliance dates
Existing: 1/10/2011
New: Upon startup after 1/9/2008
Ctg at Area Sources

Applies to paint stripping with MeCl strippers

Spraying ctgs with target HAP
Cr, Pb, Mn, Ni or Cd

Content levels
Noncarcinogens: >1% by wt.
Carcinogens: >0.1% by wt.
Area Sources—MeCl paint stripper

Requirements:
1. Stripping: work practices to minimize evaporation
2. Annual usage reports on site
3. Use minimization plan
Area Sources - Ctg Operations

Painters complete training on proper spray application, set up & maintenance

Training requirements described

Spray coatings in booth with filter with 98% capture eff.

Booth with roof and 3 comp. walls
Area Sources - Spray

Apply by
HVLP
Electrostatic
Airless
Air assisted airless
Or equivalent TE, with written approval of EPA Administrator.
Area Sources - Cleaning

Clean without generating mist or spray outside of a closed container
Disassembled in solvent container - ok
Flushing solvent thru gun [not atomizing] - ok
Fully enclosed spray gun washer
Area Sources - Reports

1. Initial Notification
   New: 180 days after start OR by 7/7/08
   Existing: By 1/11/10

2. Notification of Compliance Status
   New: Usually with initial notice
   Existing: By March 11, 2011

3. Annual Notification of Changes
   Any changes must be reported by March 1.
What’s next?

HAPS: Residual Risk

8 years after MACT was final
Misc Metal Parts - final 1/1/04

VOCs: Ozone Std up for re-eval. again

If then pressure on VOC limits
South Coast [LA]- Misc Metal

Current limit

Single comp.- VOCreg = 2.3#/gal (275 g/l)
Multi-comp.- VOCreg = 2.8#/gal (340 g/l)

Future limit planned

Single & multi-comp.
SB - VOCreg = 0.8#/gal (100 g/l)
WB - VOCreg = 1.6#/gal (200 g/l)
& VOCmat = 0.8#/gal (100 g/l)
VOC calculations

VOC regulatory

VOC material

Water
Solvent
Solids

Solvent (VOC)
Solids
Questions .....