Reducing VOC Emissions from VOC-Containing Materials
VOC-Containing Material Rules

- Dry Cleaning (Rule 1102)
- Boats (Rules 1106 & 1106.1)
- Metal (Rule 1107)
- Buildings (Rule 1113)
- Solvent Cleaning (Rules 1122, 1143, 1171)
- Aerospace (Rule 1124)
- Metal coil and containers (Rule 1125)
- Printing (Rules 1130 & 1130.1)
- Wood (Rule 1136)
- Paint thinners (Rule 1143)
- Metalworking fluids (Rule 1144)
- Plastic/Rubber/Glass (Rule 1145)
- Auto refinishing (Rule 1151)
- Polyester Resin (Rule 1162)
- Adhesives/Sealants (Rule 1168)

**Consumer products** (regulated by California Air Resources Board)
Regulatory Requirements

- Applicability and Purpose
- Definitions
- Coating VOC content
  - Prohibits use of high VOC coatings
- Transfer Efficiency
  - HVLP
- Solvent Use
  - <25 g/l
### General VOC Content Limits

<table>
<thead>
<tr>
<th>Product Type</th>
<th>VOC Content (g/L)</th>
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<tbody>
<tr>
<td>Adhesive</td>
<td>50 - 150</td>
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<tr>
<td>Architectural Coating</td>
<td>50 - 100</td>
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<tr>
<td>Industrial Coating</td>
<td>100 - 420</td>
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<tr>
<td>Inks</td>
<td>225 - 300</td>
</tr>
<tr>
<td>Cleaning</td>
<td>25 – 100</td>
</tr>
<tr>
<td>Metalworking Fluids</td>
<td>50 - 75</td>
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</table>

- Limits designed to encourage the use of low and non-solvent technologies
  - Co-benefits of reducing toxicity (removing aromatics)
Architectural Coatings

Solvent-based Alkyd, Epoxy, Urethanes

Summer (Planning) Inventory about 30% higher

Rule Limits: VOC 50 – 100 g/l
Numerous Commercial Coatings: VOC < 10g/l
Colorants Limit: VOC 50 g/l – First in U.S.

100% Solids
Acrylics
Alkyd Emulsions
Waterborne Epoxy & Urethanes
Exempt Solvent-based

Architectural Coatings
Annual Average Emissions

Includes Colorant

Emissions Reductions Achieved
Emissions inventory
Uncontrolled Emissions Inventory
Solvent Usage
Industrial & Consumer

VOC Solvents (Toluene, MEK, Xylene)

VOC < 25 g/l

Aqueous

Exempt Solvents

Bio-based

Annual Average Emissions

<table>
<thead>
<tr>
<th>Year</th>
<th>Emission Inventory</th>
<th>Emission Reductions Achieved</th>
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<tbody>
<tr>
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<td>2011</td>
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</tbody>
</table>

Consumer Paint Thinner & Multi-Purpose Solvent
Future Considerations
Questions or Comments?

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