Proposed Amended Rule 1168
Adhesive and Sealant Applications

April 17, 2014
Working Group Meeting

South Coast Air Quality Management District
Agenda

- Changes in Proposed Rule Language
  - Definitions
  - VOC Limits
  - Technology Assessment
  - Test Methods
- Emission Inventory and Reductions
- TBAC/DMC Status
- CEQA Status
- Rule Development Schedule
Definitions

- Removing minimum content from cyanoacrylates
- Including calculation method for aerosol products
  - Using material VOC content
  - Not including weight percent in VOC Limit table (Table 1)
- Including definition for Potable Water Architectural Sealant
- Revising Reactive Diluent/Product definition
  - Facilitate use with proposed test method for reactive materials
- Removing TBAC exemption from VOC definition
VOC Limits

<table>
<thead>
<tr>
<th>SELECTED ADHESIVE CATEGORIES</th>
<th>CURRENT LIMIT</th>
<th>EFFECTIVE 1/1/2016</th>
<th>EFFECTIVE 1/1/2018</th>
</tr>
</thead>
<tbody>
<tr>
<td>Carpet Pad</td>
<td>50 g/L</td>
<td>20 g/L</td>
<td></td>
</tr>
<tr>
<td>Ceramic Tile</td>
<td>65 g/L</td>
<td>20 g/L</td>
<td></td>
</tr>
<tr>
<td>Cove Base</td>
<td>50 g/L</td>
<td>20 g/L</td>
<td></td>
</tr>
<tr>
<td>Dry Wall and Panel</td>
<td>50 g/L</td>
<td>20 g/L</td>
<td></td>
</tr>
<tr>
<td>Indoor Flooring</td>
<td>50 g/L</td>
<td>20 g/L</td>
<td></td>
</tr>
<tr>
<td>Multi-Purpose Construction</td>
<td>70 g/L</td>
<td>40 g/L</td>
<td>20 g/L</td>
</tr>
<tr>
<td>Outdoor Floor Covering</td>
<td>150 g/L</td>
<td>20 g/L</td>
<td></td>
</tr>
<tr>
<td>Plastic Foams</td>
<td>50 g/L</td>
<td>20 g/L</td>
<td></td>
</tr>
<tr>
<td>Reinforced Plastic Composite</td>
<td>250 g/L</td>
<td>200 g/L</td>
<td></td>
</tr>
<tr>
<td>Rubber Floor</td>
<td>60 g/L</td>
<td>20 g/L</td>
<td></td>
</tr>
<tr>
<td>Structural Glazing</td>
<td>100 g/L</td>
<td>40 g/L</td>
<td></td>
</tr>
<tr>
<td>Structural Wood Member</td>
<td>140 g/L</td>
<td>50 g/L</td>
<td></td>
</tr>
<tr>
<td>Subfloor</td>
<td>50 g/L</td>
<td>20 g/L</td>
<td></td>
</tr>
<tr>
<td>VCT and Asphalt Tile</td>
<td>50 g/L</td>
<td>20 g/L</td>
<td></td>
</tr>
<tr>
<td>Wood Flooring</td>
<td>100 g/L</td>
<td>50 g/L</td>
<td>20 g/L</td>
</tr>
</tbody>
</table>

- Numerous products compliant with proposed limits already in marketplace
- Additional time provided for final Multi-Purpose Construction and Wood Flooring limits
### SELECTED SEALANT CATEGORIES

<table>
<thead>
<tr>
<th></th>
<th>CURRENT LIMITS</th>
<th>EFFECTIVE 1/1/2015</th>
<th>EFFECTIVE 1/1/2016</th>
<th>EFFECTIVE 1/1/2018</th>
</tr>
</thead>
<tbody>
<tr>
<td>Clear, Paintable and</td>
<td>250 g/L</td>
<td>380 g/L</td>
<td></td>
<td>50 g/L¹</td>
</tr>
<tr>
<td>Immediately Water-</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Resistant</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Foam</td>
<td>250 g/L</td>
<td>200 g/L</td>
<td></td>
<td>20 g/L¹</td>
</tr>
<tr>
<td>Potable Water</td>
<td>250 g/L</td>
<td>100 g/L</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Roadway</td>
<td>250 g/L</td>
<td></td>
<td>50 g/L</td>
<td></td>
</tr>
<tr>
<td>Other Architectural</td>
<td>250 g/L</td>
<td></td>
<td>50 g/L</td>
<td></td>
</tr>
</tbody>
</table>

1. Technology Assessment for Clear, Paintable and Immediately Water-Resistant Sealants and Foam Sealants prior to final limit implementation, including potential sub-categorization
### VOC Limits (Cont.)

<table>
<thead>
<tr>
<th>SELECTED ROOFING CATEGORIES</th>
<th>CURRENT LIMIT</th>
<th>EFFECTIVE 1/1/2018</th>
</tr>
</thead>
<tbody>
<tr>
<td>Single Ply Roof Membrane Adhesive</td>
<td>250 g/L</td>
<td>100 g/L&lt;sup&gt;1&lt;/sup&gt;</td>
</tr>
<tr>
<td>Other Roof Adhesive</td>
<td>250 g/L</td>
<td>100 g/L&lt;sup&gt;2&lt;/sup&gt;</td>
</tr>
<tr>
<td>Single Ply Roof Membrane Sealant</td>
<td>450 g/L</td>
<td>100 g/L&lt;sup&gt;3&lt;/sup&gt;</td>
</tr>
<tr>
<td>Other Roof Sealant</td>
<td>300 g/L</td>
<td>100 g/L</td>
</tr>
</tbody>
</table>

1. Includes assessment of wall and parapet (vertical) adhesives  
2. Includes assessment of ply adhesives  
3. Includes assessment of waterproofing mastic

- All roofing categories to subject to Technology Assessment before final limits
- Other Roof Sealants include Clear, Paintable and Immediately Water-Resistant Roof Sealants
- Exempting DMC for roofing products
Technology Assessment

- Regular meetings at key intervals to evaluate progress
  - Research
  - Testing/certification
  - Commercialization
- Establish criteria to determine viability of products
  - Performance
  - Cost
  - Meteorological and Environmental impacts
- Joint report to SCAQMD Stationary Source Committee in 2017
  - Maintain limits as proposed
  - Rule amendment to consider one or more of the following:
    - Extend compliance deadlines
    - Alternative limits
    - Rescind limits
Test Methods

- Proposing CARB Method 310 for aerosols
  - Excluding LVP-VOC exemption
- Continuing to include SCAQMD Method 313
- Specifying products to be testing by Subpart PPPP Appendix A
  - Polyurethanes
  - Two component
  - Others?
- Working on revision to SCAQMD Method 316B
- Working on methodology for Foam Sealants
## Emission Inventory and Reductions

### Emission Inventory

<table>
<thead>
<tr>
<th>Source</th>
<th>2008¹</th>
<th>2012¹</th>
<th>2012 (Survey)</th>
<th>2012 Projected²</th>
</tr>
</thead>
<tbody>
<tr>
<td>Area (t/d)</td>
<td>3.41</td>
<td>3.37</td>
<td>2.95</td>
<td>6.70</td>
</tr>
<tr>
<td>Point (t/d)</td>
<td>0.13</td>
<td>0.12</td>
<td>0.12</td>
<td>0.12</td>
</tr>
<tr>
<td><strong>All</strong></td>
<td><strong>3.54</strong></td>
<td><strong>3.49</strong></td>
<td><strong>3.07</strong></td>
<td><strong>6.82</strong></td>
</tr>
</tbody>
</table>

1. 2012 AQMP; 2. Includes Foam Sealants & under-reported products

### Emission Reductions

<table>
<thead>
<tr>
<th>Category</th>
<th>Emission Reductions (tpd)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Waterborne architectural adhesives</td>
<td>0.4 to 0.8</td>
</tr>
<tr>
<td>Clear, Paintable, Immediately Water-Resistant Architectural Sealants</td>
<td>&lt; 0.1</td>
</tr>
<tr>
<td>Foam Sealants</td>
<td>0.5 to 0.9</td>
</tr>
<tr>
<td>Other Roof Adhesives</td>
<td>0.5 to 0.9</td>
</tr>
<tr>
<td>Other Roof Sealants</td>
<td>1.0 to 2.0</td>
</tr>
<tr>
<td>Single Ply Roof Membrane Adhesives</td>
<td>&lt; 0.1</td>
</tr>
<tr>
<td>Single Ply Roof Membrane Sealants</td>
<td>&lt; 0.1</td>
</tr>
<tr>
<td><strong>Overall</strong></td>
<td><strong>2.4 to 4.6</strong></td>
</tr>
</tbody>
</table>
TBAC/DMC Exemption

- TBAC Status - OEHHA
  - Received reply from inquiry
  - Scientific Review Panel (SRP) process in 2014
  - Still considered a potential human carcinogen
  - TBAC exemption removed from current proposal
  - Will reconsider if SRP alters findings

- DMC Status
  - Continuing to propose VOC exemption for roofing use
  - Using OSHA PEL for worker risk; OEHHA REL for consumer risk
CEQA Status
Schedule

- Working Group Meetings: Ongoing
- Stationary Source: April 18, 2014
- Set Hearing: June 6, 2014
- Public Hearing: July 11, 2014