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# VOC Rules for Concrete Coatings

## FEDERAL

All areas of the United States of America are subject to the following rules unless their state or local jurisdiction has adapted more restrictive rules. We have divided the rules into three categories; Federal, Low VOC, and Very Low VOC.

States currently following the US EPA Federal VOC Rules are; Alabama, Alaska, Arizona (except Maricopa County), Arkansas, Colorado, Florida, Georgia, Hawaii, Idaho, Iowa, Kansas, Kentucky, Louisiana, Michigan, Minnesota, Mississippi, Missouri, Montana, Nebraska, Nevada, New Hampshire, New Mexico, North Carolina, North Dakota, Oklahoma, Oregon, South Carolina, South Dakota, Tennessee, Texas, Utah (except seven counties in the Salt Lake Basin), Vermont, Virginia (except eleven counties around DC and Richmond), Washington, Wisconsin and Wyoming.

**National AIM rule, January 2005 (regulated by EPA) = US EPA AIM = federal AIM VOC 40 CFR Part 59 Subpart D under authority of Section 183(e) of the Clean Air Act**

Concrete Curing Compounds	350 g/L
Concrete Curing and Sealing Compounds	700 g/L
Concrete Protective Coatings	400 g/L
Concrete Surface Retarders	780 g/L
Floor Coatings	400 g/L
Form Release Compounds	450 g/L
Industrial Maintenance	450 g/L
Waterproofing Sealer and Treatments	600 g/L

<http://www3.epa.gov/ttn/atw/183e/aim/fr16fe00.pdf>

## Low VOC

### **Northeast Ozone Transport Commission (OTC)**

The OTC is a coalition of 13 northeastern states and District of Columbia working cooperatively to solve regional ozone problems. While they work collectively, each state acts autonomously on rule adoption. The OTC created a model AIM VOC rule that many member states have adopted; some with minor modifications.

The states and districts with OTC rules include Connecticut, Delaware, Maine, Massachusetts, New Jersey, New Hampshire, New York, Pennsylvania, Rhode Island, the District of Columbia and Virginia's DC, Fredericksburg and Richmond area counties of Arlington, Fairfax, Loudoun, Prince William, Stafford, Spotsylvania, Hanover, Henrico,

Chesterfield, Charles City and Prince George. Vermont is a member of OTC but has not yet adopted the OTC VOC rule.

### **Northeast and Mid-Atlantic: OTC Phase I Model Rule, January 1 2005**

Concrete curing Compounds	350 g/L
Form-Release Compounds	250 g/L
Industrial Maintenance	340 g/L (Model Rule is 250 g/L: states select 340 g/L)
Primers, Sealers and Undercoaters	250 g/L
Stains	250 g/L
Waterproofing Concrete/Masonry Sealers	400 g/L

<http://www.otcair.org>

### **Lake Michigan Air Director's Consortium (LADCO)**

LADCO is a cooperative air quality group comprised of Illinois, Indiana, Wisconsin, Michigan and Ohio. It is a looser coalition than the OTC with no AIM VOC model rule. LADCO recommends adaption of OTC's Low VOC Rules.

Ohio, Illinois and Indiana have adopted the OTC's Low VOC Rules. Michigan and Wisconsin have yet to implement the Low VOC rules.

<http://www.ladco.org>

**Canada** adopted Low VOC Rules similar to OTC on September 9, 2010.

**Arizona's Maricopa County** (Phoenix area) has adopted Low VOC Rules similar to OTC.

## **Very Low VOC**

### **California Air Resources Board (CARB)**

In 1997 CARB was the first jurisdiction to adopt VOC rules more restrictive than US EPA. CARB updated its AIM VOC rule effective January 1, 2011.

### **South Coast Air Quality management District (SCAQMD)**

The 2006 revisions to SCAQMD Rule 1113 for AIM VOCs are still in effect. SCAQMD is comprised of a number of cities in the greater Los Angeles basin. It establishes its own regulation separate from the California Air Resources Board (CARB). Rule 1113 is the strictest architectural coatings standard in the world.

### **California South Coast: SCAQMD Rule 113, July 1 2007 (plus Antelope Valley/Mojave Desert)**

Concrete-Curing Compounds	100 g/L
Concrete-Curing Compounds (Roads & Bridges only)	350g/L
Floor Coatings	50 g/L
Industrial Maintenance Coatings	100 g/L
Primer, Sealers, and Undercoaters	100 g/L
Stains	100 g/L
Stain (clear)	250 g/L
Waterproofing Concrete/Masonry Sealers	100 g/L

<http://www.aqmd.gov/rules/download.html> Rule 1113

### **California except South Coast; CARB SCM (Suggested Control Measure) Categories Effective January 1, 2011.**

Concrete Curing Compounds	350 g/L
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Concrete / Masonry Sealers	100 g/L
Floor Coatings	250 g/L
Form Release Compounds	250 g/L
Industrial Maintenance	250 g/L
Primer, Sealer and Under-coaters	100 g/L
Stains	250 g/L
Waterproofing Membranes	250 g/L
Reactive Penetrating Sealer	350 g/L

<http://www.arb.ca.gov/coatings/arch/rules/VOClimits.pdf>

**Utah.** On January 1, 2015 Utah counties of Box Elder, Cache, Davis, Salt lake, Tooele, Utah and Weber adopted VOC rules similar to California. There is a sell-through period of three years for product manufactured prior to January 1, 2015.

**Maryland:** On January 1, 2017 Maryland adopted VOC rules similar to California. There is a sell-through period of three years for product manufactured prior to January 1, 2017.

**Delaware:** On March 1, 2017 Delaware adopted VOC rules similar to California. Products manufactured before March 1, 2017 will be allowed to be sold or used after March 1, 2017.

### **Key to Acronyms**

AIM:	Architectural, Industrial, Maintenance
CARB:	California Air Resource Board (California EPA ARB)
EPA:	Environmental Protection Agency (US)
LADCO:	Lake Michigan Air Directors Consortium (IL, IN, MI, OH, WI.)
OTC:	Ozone Transport Commission (CT, DE, D.C., ME, MD, MA, NH, NJ, NY, PA, RI, VT, VA)
SCAQMD:	South Coast Air Quality Management District (Southern California)
VOC:	Volatile Organic Compound

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