



ClearChem™ Standard

BkA-CC-01.3

Berkeley Analytical Associates, LLC

January 5, 2018

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1 Amendment History

History of Revisions to ClearChem Standard BkA-CC-01

Date	Issue	Summary of Revision
March 25, 2015	BkA-CC-01.1	First Publication of Standard
December 14, 2015	BkA-CC-01.2	Added requirement that Co-product be in same product line as Parent product; Allows claim to be made for product group under defined circumstances; Window sealants added as permitted category; Changed authoritative body for paints and coatings definitions to CARB SCM, 2007; Listing period for ClearChem registry changed to two years from completion of test.
January 5, 2018	BkA-CC-01.3	Changed Product Categories to be consistent with Origin Material Categories (https://origin.build/#/). Used term "Company" consistently to describe a manufacturer or an operating company. Updated reference to CDPH/EHLB/Standard Method to V1.2 (2017). Updated references to other standards throughout.

2 Background

2.1 Scope

- 2.1.1. ClearChem™ Standard BkA-CC-01 specifies the requirements for self-declared claims regarding the volatile organic compound (VOC) emissions and, for some product categories, the VOC content of products used in the construction and finishing of building interiors.
- 2.1.2. The ClearChem Standard is based on specific regulations, standards and guidelines.
- 2.1.3. Transparency of Self Declarations made in accordance with the ClearChem Standard is emphasized.
- 2.1.4. The ClearChem Standard employs laboratory testing as a primary means of demonstrating compliance. Each claim is backed by a laboratory test.

- 2.1.5. The ClearChem Standard is optimized to show conformity of products with the credit structure in the USGBC, LEED v4, EQ Credit: Low-Emitting Materials (USGBC, 2017) and with the requirements in North American green building codes but may be used for other applications and in other geographical markets.

2.2 Self-declared environmental claims are efficient and transparent

- 2.2.1. Companies often use voluntary eco label programs to communicate the environmental aspects of their products to their customers. However, there are deficiencies in this approach.
 - 2.2.1.1. Eco-label programs often employ different environmental criteria in an effort to compete, which creates undesirable confusion in the marketplace.
 - 2.2.1.2. Eco-label programs sometimes are applicable only to specific regions or countries making it difficult for Companies to address customer demands on a larger scale.
 - 2.2.1.3. The details of how eco labels assess conformity frequently are hidden from scrutiny, which is contrary to increasing consumer demand for transparency with respect to the environmental performance of products.
- 2.2.2. A system of self-declaration used by Companies relative to a set of clearly defined criteria often is a more efficient and transparent way to communicate environmental information. In effect, many eco-label programs operate on a system of self-declaration in which Companies document their conformance through the creation of auditable records.

2.3 International Organization for Standardization supports self-declared environmental claims

- 2.3.1. General requirements for making a self-declared claim are defined in ISO International Standard 14021, *Environmental Labels and Declarations – Self-declared environmental claims (Type II Environmental Labeling)*.
- 2.3.2. ISO 14021 contains a number of requirements including that such claims be: specific with regard to the claim, based on scientific evidence, accurate, verifiable, and updated if circumstances alter their accuracy.
- 2.3.3. ISO 14021 requires that information on the procedures, criteria and data used to support such claims be made available to interested parties upon request.
- 2.3.4. The objectives and general requirements of ISO 14021:2016, Sections 4 and 5, are incorporated by reference into Standard BkA-CC-01.

2.4 Self-declared claims for low-emitting products are recognized in building product market

- 2.4.1. USGBC LEED v4, EQ Credit: Low-Emitting Materials supports the use of self-declared claims for low-emitting products. The credit does not require the use of eco-label programs nor does it list such programs.
- 2.4.2. The Collaborative for High Performance Schools (CHPS) has been a leader in promoting the use of self-declared claims for low-emitting products. CHPS maintains a High Performance

- Products Database for self-declarations that is supported by a standard, *CHPS High Performance Products Database Procedures and Standards for Product Inclusion, Version 2.0*.
- 2.4.3. USGBC LEED v4, EQ Credit: Low-Emitting Materials and the CHPS database specify the use of CDPH/EHLB/Standard Method V1.1, *Standard Method for the Testing and Evaluation of Volatile Organic Chemical Emissions from Indoor Sources Using Environmental Chambers, Version 1.1, 2010* (sometimes referred to as CA Section 01350) for measuring VOC emissions from indoor products. In February 2017, the California Department of Public Health updated the standard to require the use of the most recent health hazard assessment for benzene as the basis for the maximum allowable benzene concentration. None of the technical requirements of the standard were modified. The revised standard, CDPH/EHLB/Standard Method V1.2 became effective April 1, 2017. All assessments of VOC emissions conducted by BkA since that date reference V1.2 (assessments prior to that date reference V1.1). Section 8 of CDPH Standard Method V1.2, *Guidelines for Use of Standard Method as Basis for a Building Product Claim*, provides guidance for making product claims related to VOC emissions that apply equally to eco label programs and to companies.
- 2.5.3.1. Section 8 addresses requirements for quality control, product sample selection, retesting frequency and extension of claims to products that have virtually the same VOC emission characteristics.
- 2.5.3.2. A Company must have a documented quality control plan for the product that ensures finished units of the product are consistently produced.
- 2.5.3.3. The test sample must be representative of the product. Specific procedures include development of a pre-defined written sampling plan, random selection of the sample from typical production lots, and determination and selection of worst-case samples where manufacturing differences occur.
- 2.5.3.4. Product groups are restricted to products that are made by the same production methods and have the same ingredients or formulation.
- 2.4.4. The product declaration guidelines of CDPH Standard Method V1.2, Section 8 are incorporated by reference into Standard BkA-CC-01.

2.5 *Self-declared environmental claims eliminate conflicts of interest*

- 2.5.1. ClearChem Standard BkA-CC-01 has been developed and is maintained by BkA. The objective of ClearChem Standard BkA-CC-01 is to provide a uniform and fully transparent process and format for Companies that are BkA customers to make valid self-declared claims regarding the VOC emissions and VOC content of their interior building products. The roles of the participants are well defined and separate.
- 2.5.2. Berkeley Analytical is third-party, ANSI/ISO/IEC 17025:2005 accredited testing laboratory (IAS TL-383). As part of its testing service, BkA provides Company with a test report and, for

- a compliance test that meets the acceptance criteria of an identified standard, separate documentation of test conformity.
- 2.5.2.1. As prescribed by the ANSI/ISO/IEC 17025 standard, the laboratory's test results and the laboratory's VOC Emission Test Certificate are specific to the test item.
 - 2.5.2.2. The link between the test item and a product introduced into commerce by Company is established by Company through the creation of a self-declared environmental claim, in accordance with Standard BkA-CC-01.
- 2.5.3. A participating manufacturer or operating company ("Company") is a customer of BkA that tests their products with BkA. Each Company participating in the ClearChem program shall enter into a binding Implementation Agreement with BkA before using the ClearChem Standard and the Self-Declaration. Therein, Company agrees to follow the procedures in the ClearChem Standard and acknowledges that their claims are self-declared and are the sole responsibility of Company.
- 2.5.4. The ClearChem Certificate of Product Conformity ("Self Declaration") is intended for use by Company's customers including architects and architectural specifiers. These architecture and design professionals often require documentation that a product meets performance criteria with respect to its emissions of VOCs.
- 2.5.4.1. In order for a project to earn points in USGBC, LEED v4, EQ Credit: Low-Emitting Materials, the architectural team needs to show compliance for at least three of the six listed product categories. The Self Declaration conveys the information regarding a product's conformity in a consistent, uniform format that is intended to facilitate LEED document review.
 - 2.5.4.2. Newly developing "Green" building codes also may require documentation of product conformity.
- 2.5.5. The Self Declaration also can be used to more generally communicate Company's commitment to producing interior building products with low impacts on indoor air quality.

3 References

3.1 *International standards*

ANSI/ISO/IEC 17025:2017. General requirements for the competence of testing and calibration laboratories. American Society for Quality, Milwaukee, WI.

ISO 14021:2016. Environmental labels and declarations – Self-declared environmental claims (Type II Environmental labeling). International Organization for Standardization, Geneva, Switzerland.

3.2 *North American standards*

ASTM D5116-17. Standard Guide for Small-Scale Environmental Chamber Determinations of Organic Emissions from Indoor Materials/Products. ASTM International, West Conshohocken, PA.

California Air Resources Board (CARB). Suggested Control Measure (SCM) for Architectural Coatings, 2007. Air Resources Board, Sacramento, CA.

California Department of Public Health. CDPH/EHLB/Standard Method V1.2. Standard Method for the Testing and Evaluation of Volatile Organic Chemical Emissions from Indoor Sources Using Environmental Chambers, Version 1.2. California Department of Public Health, Environmental Health Laboratory Branch, 2017.

Collaborative for High Performance Schools. CHPS High Performance Products Database Procedures and Standards for Product Inclusion, Version 2.0, Collaborative for High Performance Schools, Sacramento, CA.

South Coast Air Quality Management District (SCAQMD) Rule 1113. Architectural Coatings. June 3, 2011, or most recent version.

South Coast Air Quality Management District (SCAQMD) Rule 1168. Adhesive and Sealant Applications. July 1, 2005, or most recent version.

USGBC. LEED v4 for Interior Design and Construction. U.S. Green Building Council, Washington, D.C., July 8, 2017.

4 Terminology

4.1 Acronyms and abbreviations

ASTM –	American Society for Testing and Materials
CARB –	California Air Resources Board
CDPH –	California Department of Public Health
CHPS –	Collaborative for High Performance Schools
ISO –	International Organization for Standardization
LEED –	Leadership in Energy and Environmental Design green building rating systems (Developed by the US Green Building Council, USGBC)
SCAQMD –	South Coast Air Quality Management District
SCM –	Suggested Control Measure
TVOC –	Total volatile organic compounds (Defined in CDPH Standard Method V1.2)
USGBC –	United States Green Building Council
VOC –	Volatile organic compounds

4.2 Definitions

- 4.2.1. Adhesives– Interior use adhesives as defined in SCAQMD Rule 1168, Section (b), Definitions.
- 4.2.2. Area-specific airflow rate – Ratio of the inlet airflow rate to the nominal surface area of the product in a building or the product test specimen in an environmental chamber.
- 4.2.3. Building Type – Standardized indoor air modeling scenario defined CDPH Standard Method V1.2.
- 4.2.4. Concrete Finishes – Clear or pigmented sealers that are formulated for sealing concrete and masonry to provide resistance against water, alkalis, acids, ultraviolet light, or staining as defined for Waterproofing Concrete/Masonry Sealers in SCAQMD Rule 1113, Section (b), Definitions.

- 4.2.5. Co-product – Concept used for extended product claim. Co-product is manufactured by the same production processes, has the same ingredients and is a member of the same product line as the product that was sampled for compliance testing.
- 4.2.6. Direct claim – Self Declaration for a product for which a representative sample was tested and compliant with CDPH Standard Method V1.2.
- 4.2.7. Extended claim – Self Declaration for a Co-product (see definition) for which a representative sample was tested at a screening level following ASTM D5116.
- 4.2.8. Full-spread application – An interior adhesive installation system in which the adhesive is evenly spread across the entire substrate before a product, such as sheet flooring, is installed.
- 4.2.9. Paints – Interior architectural coatings. See CARB SCM, Section 4 (CARB, 2007) for definitions.
- 4.2.10. Parent product – Product selected by Company for compliance testing by CDPH Standard Method V1.2 that Company declares is representative of a larger group of products within a product line, *i.e.*, parent product plus co-products.
- 4.2.11. Product Category – General group of similar products intended for a particular application and performance.
- 4.2.12. Product Line – Company-defined group of closely related products typically used for marketing purposes.
- 4.2.13. Sealants – Materials, including caulks and grouts, with adhesive properties that are primarily designed to fill, seal, waterproof, or weatherproof gaps or joints between two surfaces as defined in SCAQMD Rule 1168, Section (b), Definitions.
- 4.2.14. Use Scenario – Typical product application or use in a Building Type. Generally, Use Scenario is equivalent to ‘Product Type’ in CDPH Standard Method V1.2.

5 Procedures for Creating Low-Emitting Product Claim

- 5.1. Company shall designate an individual as the Company’s authorized signatory. The signatory’s position within Company shall include management level responsibility for product assurance with respect to environmental attributes. BkA enters the authorized signatory’s name into Company’s ClearChem account settings and creates a unique User ID and Password for the Company when the account is first established. Company may later change the signatory by logging into the account and modifying their account settings.
- 5.2. A ClearChem Self-Declaration is created using an online form. The form shall be completed by the authorized signatory or by a designated representative who is under their direct supervision.
- 5.3. The Self Declaration form leads the user through a series of questions that must be answered either by entering the required information or, for some questions, by selecting items in drop-down lists of possible responses.

- 5.4. The Self Declaration is organized in sections. These sections are labeled: Company Information, Product Information, Environmental Claim (including Exclusions), VOC Content (if applicable), VOC Emissions, Compliance Testing, Extended Claim for Co-product (if applicable), Quality Control, Certificate, and Self-declaration Signature.
- 5.5. When the form is fully completed, submitted and approved, the Self Declaration is generated as an Adobe PDF (Adobe Systems, Inc.) document.
- 5.6. An example of the Self Declaration for a hypothetical company and product is presented in Appendix 5A.

6 Company Information

- 6.1. Company shall list the name of the business entity that is associated with the product that is the subject of the claim. The business entity may be a corporation, limited liability company, partnership, sole proprietorship, or registered trade name.
- 6.2. Company shall list their contact information. The contact information is the Company's preferred communication channel for customers seeking information related to the product and the product claim. Contact information examples include a customer service phone number, an email address, and the URL of a webpage with a contact form. More than one type of communication channel may be listed, *e.g.*, phone number and email address.
- 6.3. Company shall list the URL of a company webpage. This is Company's preferred landing webpage for customers seeking additional information related to the product and the claim. Company webpage examples are a homepage, a product specific page, and an environmental program page.

7 Product Identification

- 7.1. Claims supported by Standard BkA-CC-01 primarily are for individual products rather than for groups of products. Products typically have a commercial name and a unique product number. A claim may be made for a product group under special circumstances as defined below.
 - 7.1.1. A product that is managed as different stock keeping units (SKUs) but that vary only with respect to physical parameters may be considered as a single product, *e.g.*, a paint product sold in different volume containers.
 - 7.1.2. A line of products with different product numbers may be considered as a single product if the variations solely are related to physical parameters or to other parameters that are known not to be associated with VOC content or VOC emissions. Examples may include a line of acoustical ceiling panels consisting of different panel dimensions and edge treatments and a line of laminate flooring products consisting of different decorative patterns. Products that vary with respect to chemical formulation or chemical treatments shall not be treated as a single product.

- 7.2. Company shall identify the specific product to which the claim applies. In most cases, the identification consists of a product name and a single product number. If the claim is being made for a product group meeting the requirements of the preceding section, the product name along with multiple product numbers shall be listed. See Section on Exclusions if any members of the group do not meet the requirements for inclusion in the group, *e.g.*, a product within a line that has a specialty chemical treatment.
- 7.3. Companies often organize products in groups that are related in some aspect (variously termed product lines, collections, families, etc.). Company may choose to identify the product group, herein termed 'Product Line', with which a product is associated.
- 7.4. Company shall select the Product Category that broadly classifies the product. Product categories are aligned with Origin Material Categories (<https://origin.build/#/>). The available categories for containerized products are 'Paints', 'Concrete Finishes', 'Adhesives' and 'Grouts + Sealants.'
 - 7.4.1. Products in the Paints category are architectural coatings as defined in CARB SCM, Section 4 (CARB, 2007). For wall and wallboard paint, claims are for pure white or a tint base prior to the addition of colorant unless otherwise indicated.
 - 7.4.2. Products in the Concrete Finishes category are clear or pigmented sealers that are formulated for sealing concrete and masonry to provide resistance against water, alkalis, acids, ultraviolet light, or staining as defined for Waterproofing Concrete/Masonry Sealers in SCAQMD Rule 1113, Section (b), Definitions (SCAQMD, 2016).
 - 7.4.3. Products in the Adhesives category are substances that are used to bond one surface to another surface by attachment as defined in SCAQMD Rule 1168, Section (b), Definitions (SCAQMD, 2005). At this time, claims in the Adhesives category only may be made for products with full-spread applications for flooring and wallcoverings (see Definitions).
 - 7.4.4. Products in the Grouts + Sealants category are materials, including caulks and grouts, with adhesive properties that are primarily designed to fill, seal, waterproof, or weatherproof gaps or joints between two surfaces as defined in SCAQMD Rule 1168, Section (b), Definitions (SCAQMD, 2017). At this time, claims in the Grouts + Sealants category may only be made for window sealants, *i.e.*, glazing sealants.
- 7.5. The available dry building product categories are 'Ceilings,' 'Doors,' 'Flooring,' 'Gypsum Board,' 'Moisture Barriers,' 'Partitions + Walls,' 'Tiling,' 'Wallcoverings' and 'Windows.' Claims for other dry building product categories that may be included in the CDPH standard but that are not specifically listed herein, *e.g.*, thermal insulation, are not available at this time.

8 Exclusions

- 8.1. Company shall identify any exclusions or exceptions to their claim for a product.

- 8.2. If there are exclusions or exceptions, Company shall ensure that customers can easily distinguish non-compliant versions of the product from compliant versions of the product.
- 8.3. If a claim is made for a group of products in a line, any variants in the line that don't meet the criterion for grouping shall be identified by product name and/or product number.

9 VOC Content of Containerized Products

- 9.1. For containerized products, USGBC LEED v4, EQ Credit: Low-Emitting Materials requires that products shall be compliant with government agency VOC content regulations. Therefore, Company making a claim for a containerized product shall list the Regulatory VOC content of the product in grams of VOC per liter (g/L) of product.
- 9.2. For products in the Paints category, the two applicable VOC content regulations are California Air Resources Board, Suggested Control Measure (SCM) for Architectural Coatings of 2007 (CARB, 2007) and South Coast Air Quality Management District (SCAQMD) Rule 1113, effective June 3, 2011 (SCAQMD, 2011), or most recent version.
 - 9.2.1. Company shall select and identify one of these two regulations as the basis for the VOC content claim. Each of the regulations has definitions and a table listing the covered product categories, *e.g.*, Flat Coatings (or Flats); Nonflat Coatings; Primers, Sealers, and Undercoaters; etc.
 - 9.2.2. Company shall select and identify the applicable regulatory category for the product.
 - 9.2.3. Regulatory VOC content shall be calculated as defined in CARB SCM, Section 4.66.
- 9.3. For products in the Adhesives category, the applicable regulation is SCAQMD Rule 1168, effective July 1, 2005 (SCAQMD, 2005), or most recent version. Company shall identify the appropriate regulatory category for the product following the definitions and tables of content restrictions in Rule 1168, *e.g.*, Indoor Carpet Adhesives, Ceramic Tile Adhesives, etc.
- 9.4. Company shall list the Regulatory VOC content test method or determination method. If allowed under the applicable regulation, Company may determine VOC content theoretically by calculation from formulation.
- 9.5. Company additionally shall identify and list the weight percent content of intentionally added compounds that are exempt under the applicable regulation. Only exempt compounds that are >1% weight by mass of the product are required to be reported. Company also shall disclose if methylene chloride (CAS 75-09-2) or perchloroethylene (CAS 127-18-4) was intentionally used in the formulation of the product.

10 VOC Emissions

- 10.1. The testing component of a product claim for VOC emissions shall be based on the testing of a representative sample of the product according to the procedures in CDPH Standard Method V1.2. The test results for the sample shall be compliant with the acceptance criteria in the CDPH standard.

- 10.2. Company shall identify the modeling scenario used to determine compliance to the CDPH standard. The modeling scenario consists of two components: 1) the Building Type and 2) the Use Scenario (or product type).
- 10.3. The CDPH standard defines three building types.
 - 10.3.1. The two building types defined in the body of the CDPH standard are a Standard School 'Classroom' and a Standard Private 'Office.' Tables 4-2 and 4-4 of the CDPH standard provide the building parameters for the Classroom and Office, respectively.
 - 10.3.1.1. Claims for non-residential products typically are made using one or both of these building types.
 - 10.3.1.2. USGBC LEED v4 requires the use of the Office scenario for EQ Credit: Low-Emitting Materials.
 - 10.3.2. A claim for a product that is used in residential environments may be made using the New Single Family 'Residence' Scenario in informative Appendix B of the CDPH standard. The building parameters for the Residence scenario are presented in Tables B-1 of the CDPH standard.
- 10.4. The CDPH standard lists product quantities and area-specific airflow rates for modeling of what it terms "Product Type" for each of the three building types. Note that a product type may not be available for all scenarios. For example, the 'Door & Other Millwork' product type in the Office scenario is not defined for the Classroom scenario. Also, note that the Product Type terminology is not entirely consistent between the Residence and the Classroom/Office building types.
 - 10.4.1. For the Classroom and Office, the product types are listed in Tables 4-3 and 4-5, respectively, of the CDPH standard.
 - 10.4.2. The product types for the residence are listed in Appendix B, Table B-2 of the CDPH standard.
- 10.5. Within Standard BkA-CC-01, Product Type is termed 'Use Scenario.' Standard BkA-CC-01 applies descriptors for Use Scenarios that in some instances vary from the Product Type descriptors in the CDPH standard. This modification is implemented to harmonize differences between the Residence and the Classroom/Office building types. Table 1 lists the available Use Scenarios for the six Product Categories in the three building types. Claims may be established for products in the Product Category/Building Type/Use Scenario combinations shown in Table 10.5.
- 10.6. The area-specific airflow rates used in the modeling of a product's indoor air quality impacts in the Product Category/Building Type/Use Scenario combinations are listed in Table 10.6.
- 10.7. Of the three building types, the Residence is the most conservative as it has the lowest area-specific airflow rates for applicable Use Scenarios. Of the two non-residential building types, the Office is the most conservative.

- 10.7.1. If a claim is made for a residential product that is compliant with the Residence Use Scenario, the product also will be compliant with the Office and Classroom scenarios. The exceptions are the Doors and Windows product categories for which there is no Classroom door or window Use Scenario; in this case, the product will be compliant with the Residence and Office scenarios. Thus, the available Building Type categories for a product for which Company desires to establish a residential claim are 'Residence+Office+Classroom,' or 'Residence+Office.'
- 10.7.2. A non-residential product that is compliant with the Office scenario also will be compliant with the Classroom scenario again with the exceptions of the Doors and Windows product categories for which there is no Classroom door or window Use Scenarios. Thus, the available Building Type categories for a non-residential product are 'Office+Classroom,' 'Office,' or 'Classroom.'
- 10.8. USGBC LEED v4, EQ Credit: Low-Emitting Materials requires the reporting of estimated TVOC concentration.
 - 10.8.1. TVOC concentration shall be reported in milligrams per cubic meter of indoor air (mg/m^3) as defined in the CDPH standard in one of three ranges: 1) $\leq 0.5 \text{ mg}/\text{m}^3$, 2) $> 0.5 \text{ mg}/\text{m}^3$ to $< 5 \text{ mg}/\text{m}^3$, and 3) $\geq 5 \text{ mg}/\text{m}^3$.
 - 10.8.2. Company shall report the range of the estimated TVOC concentration for the most restrictive modeling scenario.
 - 10.8.2.1. When making a claim for a non-residential product in Building Type category Office+Classroom, Company shall report the estimated TVOC range for the Office, which is the most conservative modeling scenario.
 - 10.8.2.2. When making a claim for a residential product, Company shall report the estimated TVOC range for the Residence.

11 Compliance Testing

- 11.1. All testing of product samples in support of Self Declaration shall be conducted by BkA. Company shall list the test start date for the CDPH Standard Method V1.2 compliance test of the sample of the product for a direct claim or the sample of the Parent product for an extended claim (see below). This is the test start date shown on the information page of the BkA test report for CDPH Standard Method V1.2.
- 11.2. Only tests of product samples that are compliant with CDPH Standard Method V1.2 shall be used as evidence for a Self Declaration. Company shall list the tracking number of the VOC Emission Test Certificate issued by BkA for the CDPH Standard Method V1.2 compliance test. This is the laboratory conformity certificate number associated with the test of a product sample for a direct claim or with the Parent product for an extended claim of a Co-product (see below).

12 Direct and Extended Claims

- 12.1. Company shall state whether the Self Declaration is either a Direct or an Extended claim. Direct claims are reserved for products for which a representative sample has been tested for compliance following CDPH Standard Method V1.2. For Direct claims, there is a one-to-one correspondence between the claim and the compliance test.
- 12.2. Standard BkA-CC-01 fully adopts the guidance on extended claims in CDPH Standard Method V1.2 Section 8, Subsections 8.3.1, 8.7.1.5, and 8.7.1.6. These provide guidance on extending claims beyond the product that was sampled and tested for compliance.
 - 12.2.1. Herein, products with extended claims are termed 'Co-products.'
 - 12.2.2. Co-products shall be manufactured by the same production processes and shall have the same ingredients (*i.e.*, formulation) as the product that was sampled for compliance testing, herein termed the 'Parent product.'
 - 12.2.3. Standard BkA-CC-01 additionally requires that Co-products be members of the same product line as the Parent product.
- 12.3. Additional requirements apply when establishing Parent product and Co-product groups for Paints.
 - 12.3.1. The CDPH standard specifies different substrate types for wall paints in different gloss categories. Wall paints with a gloss level less than a traditional semi-gloss (*i.e.*, primers, flats, eggshell, and satin) are applied to a gypsum board substrate. Semi-gloss and gloss wall paints are applied to stainless steel plates.
 - 12.3.2. As the substrate type may have a significant impact on measured VOC emissions, groups of wall paint co-products shall be delineated by the required substrate type. That is, only paints that are applied to the same substrate (either gypsum board or stainless steel) shall be placed into a product group consisting of Parent product and the associated Co-products.
- 12.4. Standard BkA-CC-01 limits the maximum product group size to five (5) individual products. That is, if justified under the guidance of the CDPH standard, a product group may consist of one Parent product and up to four (4) Co-products.
- 12.5. If Company is using the Self Declaration to make an extended claim for a Co-product, Company shall identify the commercial name and number of the Parent product for the group that includes the Co-product.
- 12.6. All extended product claims shall be supported by test data generated by screening level VOC emission testing of a representative sample of the Co-product.
 - 12.6.1. Screening tests shall be conducted by BkA following ASTM D5116 (ASTM, 2017) using the environmental parameters specified in CDPH Standard Method V1.2.
 - 12.6.2. Screening test results shall be of 14 days or shorter duration. These tests shall demonstrate that a Co-product meets the acceptance criteria in CDPH Standard Method V1.2 for the same Use Scenario and Building Type as the Parent product.

- 12.6.3. Company shall provide the BkA report ID number for the screening test that it is using as the basis for the extended claim.
- 12.7. Company shall briefly summarize its basis for extending the claim from the compliant Parent product to the listed Co-product. The stated basis shall be consistent with guidance in CDPH Standard Method V1.2 Section 8.7 on the formation of groups of products related by manufacturing processes and ingredients.
- 12.8. Company shall briefly summarize the procedures it used to ensure that the Co-product is represented by the results of the compliance test. The successful screening level testing of a representative sample as required in this Standard may be listed as one component of these procedures.

13 Quality Control

- 13.1. Company shall be responsible for maintaining documented quality control systems that are adequate for ensuring that manufactured units consistently meet the acceptance criteria for VOC emissions and VOC content, if applicable.
- 13.2. CDPH Standard Method V1.2 Section 8 provides guidance on quality related topics.
 - 13.2.1. Section 8.6 discusses manufacturing quality control measures.
 - 13.2.2. Section 8.7 provides guidelines for product sample selection.
 - 13.2.3. Section 8.8 describes the need for retesting of product samples, either routine retesting or retesting triggered by certain events such as changes in suppliers, formulation and manufacturing processes.
- 13.3. Company shall follow a documented sampling plan for selection of product samples. The plan shall ensure that samples are representative of the commercial product. If significant variations in product performance are anticipated due to variations in manufacturing, the plan shall provide for the selection of samples that are expected to yield the worst-case results for the test.
- 13.4. Company shall maintain records of the procedures it uses to extend a product claim from a compliant Parent product to a Co-product. Successful screening level testing of a representative sample of the Co-product is one component of these procedures.

14 Certificate

- 14.1. Company shall upload the BkA laboratory certificate for the compliance test that corresponds to the product for which the claim is established. The product name for the claim and the laboratory certificate must be identical.
- 14.2. For an extended claim, the BkA laboratory certificate that is uploaded shall correspond to the Parent product for the group.
- 14.3. The uploaded certificate appears as the last page in the Self Declaration.

15 Verification of Self-Declared Claims

- 15.1. Procedures defined within Standard BkA-CC-01 provide elements required for verification of product claims made in accordance with the Standard.
 - 15.1.1. Each claim is supported by test data for a representative product sample.
 - 15.1.2. A laboratory conformity certificate demonstrating that compliance testing requirements have been met for a representative sample(s) of the product is associated and posted with each claim.
 - 15.1.3. Company is required to have a quality control system that ensures products subject to self-declared claims are consistently manufactured to conform to the regulations and standards serving as the basis of the claims.
 - 15.1.4. Each claim is signed by a qualified representative of Company's management.
- 15.2. Company using the Standard BkA-CC-01 agrees to make available, upon request and in accordance with their standard business practices, other documentation verifying a claim.

16 Authorized Signatory

- 16.1. The claim shall be signed by the Company manager who is designated by Company as an authorized signatory.
- 16.2. The signatory shall include their official title and the date the claim was signed.
- 16.3. When signing the online form, the signatory name must match the information in Company's ClearChem account settings.

17 Review for Data Accuracy and Completeness

- 17.1. All claims made by Company following ClearChem Standard BkA-CC-01 and using the ClearChem Self Declaration are the sole responsibility of Company. All data fields in the Self Declaration are entered by Company.
- 17.2. BkA checks each Self Declaration for completeness and for compliance with the requirements established in Standard BkA-CC-01.
 - 17.2.1. Any noted omission or noncompliance is brought to the attention of Company.
 - 17.2.2. BkA does not correct or otherwise alter Company's Self Declaration.
 - 17.2.3. Only Self Declarations that are complete and compliant with Standard BkA-CC-01 are eligible for publication in the online ClearChem Registry for compliant products.

18 Permitted Use Self Declaration

- 18.1. Company is only permitted to use the ClearChem Self Declaration if it has entered into a binding Implementation Agreement with BkA.
- 18.2. Self Declarations shall only be used by Company as permitted under their Implementation Agreement.

- 18.2.1. This agreement authorizes BkA to list Company's Self Declarations that are complete and in full compliance with the Standard BkA-CC-01 in the on-line ClearChem Registry.
- 18.2.2. Listing of Self Declaration in the ClearChem Registry is for a maximum period of two years (24 months) following the test completion date which is the date shown in the Compliance Testing section of the laboratory conformity certificate plus two weeks.
- 18.2.3. Self Declaration does not have an expiration date. Company is solely responsible for the claim and shall determine its on-going validity.

19 Tables

Table 10.5. ClearChem Product Categories and Use Scenarios in three Building Types used for modeling VOC emissions in CDPH Standard Method, V1.2. Listed Product Category/Use Scenario/Building Type combinations are available for establishing product claims in Standard BkA-CC-01.

Product Category	Use Scenario		
	School Classroom ^a	Private Office ^b	Single-family Residence ^c
Paints	Wall paint & wallcoverings	Wall paint & wallcoverings	Interior wallboard paint ^d
Paints	Flooring	Flooring	Flooring
Adhesives	Wall paint & wallcoverings	Wall paint & wallcoverings	Walls & wallcoverings
Adhesives	Flooring	Flooring	Flooring
Grouts + Sealants	NA ^e	Window treatments ^f	Windows
Flooring	Flooring	Flooring	Flooring
Ceilings	Ceiling	Ceiling	Ceiling
Wallcoverings	Wall paint & wallcoverings	Wall paint & wallcoverings	Walls & wallcoverings
Doors	NA	Doors & other millwork	Interior doors
Windows	NA	Window treatments	Windows
Concrete Finishes	Flooring	Flooring	Flooring
Gypsum Board	Wall paint & wallcoverings	Wall paint & wallcoverings	Interior wallboard paint
Moisture Barriers	Flooring	Flooring	Flooring
Moisture Barriers	Wall paint & wallcoverings	Wall paint & wallcoverings	Walls & wallcoverings
Partitions + Walls	Wall paint & wallcoverings	Wall paint & wallcoverings	Walls & wallcoverings
Tiling	Flooring	Flooring	Flooring

- a. CDPH Standard Method V1.2, Table 4-3; Product Types for School Classroom
- b. CDPH Standard Method V1.2, Table 4-5; Product Types for Private Office
- c. CDPH Standard Method V1.2, Appendix B, Table B-2; Product Types for Single-family Residence
- d. For Residence, wallboard paint is applied to walls plus ceiling
- e. NA = Not available
- f. Glazing sealant applied as a bead of defined dimensions as specified in product data sheet

Table 10.6. Area-specific airflow rates (m/h) for Listed Product Category/Use Scenario/Building Type combinations. Values are reproduced from CDPH Standard Method V1.2.

Product Category	Use Scenario (classroom & office)	Area-Specific Airflow Rate (m/h) ^a		
		School Classroom ^b	Private Office ^c	Single-family Residence ^d
Paints	Wall paint & wallcoverings	2.02	0.62	0.163
Paints	Flooring	2.14	1.86	0.602
Adhesives	Wall paint & wallcoverings	2.02	0.62	0.226
Adhesives	Flooring	2.14	1.86	0.602
Grouts + Sealants	Window treatments	NA ^e	4.24 ^f	1.11 ^f
Flooring	Flooring	2.14	1.86	0.602
Ceilings	Ceiling	2.14	1.86	0.585
Wallcoverings	Wall paint & wallcoverings	2.02	0.62	0.226
Doors	Doors & other millwork	NA	11.0	3.41
Windows	Window treatments	NA	13.9	3.34
Concrete Finishes	Flooring	2.14	1.86	0.602
Gypsum Board	Wall paint & wallcoverings	2.02	0.62	0.163
Moisture Barriers	Flooring	2.14	1.86	0.602
Moisture Barriers	Wall paint & wallcoverings	2.02	0.62	0.226
Partitions + Walls	Wall paint & wallcoverings	2.02	0.62	0.226
Tiling	Flooring	2.14	1.86	0.602

a. Indoor air VOC concentration ($\mu\text{g}/\text{m}^3$) = area-specific airflow rate (m/h) * VOC emission factor ($\mu\text{g}/\text{m}^2\text{-h}$)

b. CDPH Standard Method V1.2, Table 4-3

c. CDPH Standard Method V1.2, Table 4-5

d. CDPH Standard Method V1.2, Appendix B, Table B-2

e. NA = Not available

f. Length-specific airflow rate (m^2/h); based on one 4-ft by 4-ft window in private office and 19 1-m by 2-m windows in single-family residence



20 Appendix 5A – Example Self Declaration for Hypothetical Company and Product

The example Self Declaration shown on the following four pages has been completed for a hypothetical paint company and hypothetical paint product.



Self-Declared Certificate of Product Conformity VOC Emmissions



Company Information

Company Name:	A-Paint Co
Contact Information:	Jane Doe
Website:	www.apaintco.com

Product Information

Product Name:	A-Paint Deluxe Flat
Product Number:	123
Product Line:	Deluxe
Product Category:	Paints & Coatings

Exclusions

Exclusions:	None
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VOC Content

Regulatory VOC Content g/L:	Less than 50
Regulation:	SCAQMD Rule 1113
Category:	Flats
VOC Content test or determination method:	Calculated from formulation
Exempt compounds >1% weight by mass of product:	None
Does product contain methylene chloride or perchloroethylene?:	No

VOC Emissions

Test Standard:	CDPH Standard Method V 1.1
Acceptance Criteria:	CDPH Standard Method V 1.1
Use scenario(s) Product type:	Wall Paint & Wall Coverings
Building Type:	Classroom+Office
Product coverage g/m ² :	405
TVOC concentration at 14-days:	Less or equal to 0.5 mg/m ³
Direct or extended claim:	Direct

Compliance Testing

ISO/IEC 17025 accredited third-party laboratory:	Berkeley Analytical, IAS TL-383
Test start date:	03/03/2015
Laboratory certificate number:	150316-10_A-PaintCertificate_002-001-04A

Extended Claim for Co-product

Name of compliance tested product:	Not Applicable
Number:	Not Applicable
Was listed product screening-level tested for VOC emissions?:	Not Applicable
Basis for extension of claim from compliant product to co-product:	Not Applicable
Brief description of procedures used to ensure product is represented by compliance test results:	Not Applicable

Quality Control

Company maintains internal quality control program to ensure manufactured units are produced consistently and meet the requirements and acceptance criteria of listed standard(s):	Yes
Tested product sample was selected from typical production and is representative of commercial product. Where there are expected variations, sample was selected from production lot or group expected to give worst-case results:	Yes
If claim is for product other than product that was sampled and compliance tested, company maintains record of procedures used for extending claim in form of test results, calculations, formulations, or other information:	Not Applicable

Self-Declaration Signature

I affirm that I am authorized to make claims established in this declaration:	Yes
I certify that the information in this declaration is true and correct:	Yes
Date:	03/24/2015

Name of company representative: Jane Doe
Title: Quality Control Director
Signature: Jane Doe

This ClearChem template is a standardized reporting form used by companies to make self-declared claims about the environmental performance of their products. Only companies that have entered into a binding Implementation Agreement with Berkeley Analytical may use this form.

DISCLAIMER: THIS SELF-DECLARATION OF CONFORMITY ("SELF-DECLARATION") IS A STATEMENT MADE BY THE COMPANY AND ALL DECLERATIONS MADE HEREIN ARE THE SOLE RESPONSIBILITY OF THE COMPANY. BERKELEY ANALYTICAL ASSOCIATES, LLC ("BKA") SHALL HAVE NO LIABILITY FOR ANY STATEMENTS MADE IN THIS SELF-DECLARATION. ANY TEST RESULTS FURNISHED BY BKA TO COMPANY ARE LIMITED TO THE SAMPLE OF THE PRODUCT IDENTIFIED IN THIS DECLARATION, AND BKA IS NOT RESPONSIBLE FOR ANY COMPANY CLAIMS REGARDING A PRODUCT OR PRODUCTS ENTERED INTO COMMERCE THAT MAY BE BASED ON BKA TESTING. BKA'S TESTING DOES NOT CONSTITUTE AN ENDOREMENT OF ANY PRODUCT OF THE COMPANY. BKA HAS NO LIABILITY FOR THE PERFORMANCE, QUALITY, OR CONFORMANCE WITH THE REFERENCE STANDARD(S) OF ANY PRODUCT DECLARED TO BE CONFORMING TO SUCH STANDARD(S). BKA MAKES NO REPRESENTATIONS, WARRANTIES, OR CERTIFICATIONS REGARDING THE USABILITY, PUBLIC HEALTH, AND MEDICAL, TOXICOLOGICAL, OR ENVIRONMENTAL IMPACT OF THE COMPANY'S PRODUCT OR SUCH PRODUCT'S COMPLIANCE WITH ANY APPLICABLE STANDARDS, SPECIFICATIONS, REQUIREMENTS, LAWS, OR REGULATIONS. BKA PROVIDES THE SELF-DECLARATION TEMPLATE "AS IS" WITHOUT WARRANTY OF ANY KIND, EITHER EXPRESSED OR IMPLIED, INCLUDING BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY OR FITNESS FOR ANY PURPOSE. BKA SHALL NOT INCUR ANY LIABILITY FOR ANY DAMAGES, INCLUDING, BUT NOT LIMITED TO, DIRECT, INDIRECT, SPECIAL, OR CONSEQUENTIAL DAMAGES ARISING OUT OF, RESULTING FROM, OR IN ANY WAY CONNECTED TO THE USE OF ANY PRODUCT, WHETHER OR NOT BASED UPON WARRANTY, CONTRACT, TORT, OR OTHERWISE; WHETHER OR NOT INJURY WAS SUSTAINED BY PERSONS OR PROPERTY OR OTHERWISE; AND WHETHER OR NOT LOSS WAS SUSTAINED FROM, OR AROSE OUT OF, THE RESULTS OF THE COMPANY'S PRODUCT, OR ANY SERVICES THAT MAY BE PROVIDED BY BKA. ALL INQUIRIES CONCERNING THIS SELF-DECLARATION SHOULD BE DIRECTED TO THE COMPANY.



COMPLIANCE TESTED by berkeley analytical

VOC Emission Test Certificate

Product Name: A-Paint Deluxe Flat - 123

Product Sample Information		Certificate Information	
Manufacturer:	A-Paint Company	Certificate No:	150316-10
Manf. Website:	www.apaintco.com	Certified By:	 Raja S. Tannous, Laboratory Director
CSI Category & No.:	Painting & Coating (09 90 00)	Date:	March 16, 2015
Date Produced:	01/7/2015		

Reference Standard: California Department of Public Health CDPH/EHLB/Standard Method Version 1.1, 2010 (Emission testing method for CA Specification 01350)

Acceptance Criteria and Results Demonstrating Compliance of Product Sample to Referenced Standard:

Exposure Scenario ¹	Individual VOCs of Concern ²		Formaldehyde ³		TVOC ⁴
	Criterion	Compliant?	Criterion	Compliant?	Range
School Classroom	≤½ Chronic REL	YES	≤9.0 µg/m ³	YES	≤ 0.5 mg/m ³
Private Office	≤½ Chronic REL	YES	≤9.0 µg/m ³	YES	≤ 0.5 mg/m ³

Product Coverage⁵: 405 g/m²

1. Exposure scenarios & product quantities for classroom & office are defined in Tables 4-2 – 4-5 (CDPH Std. Mtd. V1.1-2010)
2. Maximum allowable concentrations of individual target VOCs are specified in Table 4-1 (*ibid.*)
3. Maximum allowable formaldehyde concentration is ≤9 µg/m³, effective Jan 1, 2012; previous limit was ≤16.5 µg/m³ (*ibid.*)
4. Informative only; predicted TVOC Range in three categories, i.e., ≤0.5 mg/m³, >0.5 – 4.9 mg/m³, and ≥5.0 mg/m³
5. Informative and applicable only to tests of wet-applied products; grams of sample applied per square meter of substrate

Standards & Codes Recognizing CDPH Standard Method V1.1 (partial list)

- ANSI/ASHRAE/USGBC/IES Standard 189.1-2011
- USGBC LEED for Schools, 2009
- Collaborative for High Performance Schools (CHPS), National Core Criteria, 2013
- USGBC LEED Version 4, BD&C, ID&C, 2013
- ANSI/GBI 01-2010, Green Building Assessment Protocol

Narrative: A-Paint Company selected a sample representative of its A-Paint Deluxe Flat – 123 product and submitted it on 3/03/2015 for testing. Berkeley Analytical measured and evaluated the emissions of VOCs from this sample following CDPH/EHLB/Standard Method V1.1-2010. The results of the test are presented in Berkeley Analytical report, 002-001-04A-Mar1115.

Berkeley Analytical is an independent, third-party laboratory specializing in the analysis of organic chemicals emitted by and contained in building products, finishes, furniture, and consumer products. We are an ISO/IEC 17025 accredited laboratory (IAS, [TL-383](#)); all standards used in performing this test are in Berkeley Analytical's scope of accreditation.

DISCLAIMER: THIS CERTIFICATE OF COMPLIANCE AFFIRMS THAT: 1) A SAMPLE OF THE LISTED PRODUCT WAS TESTED ACCORDING TO THE REFERENCED STANDARD; 2) THE MEASURED VOC EMISSIONS FROM THE SAMPLE WERE EVALUATED FOR THE DEFINED EXPOSURE SCENARIO(S); AND 3) THE RESULTS MEET THE ACCEPTANCE CRITERIA OF THE REFERENCED STANDARD(S). BERKELEY ANALYTICAL IS NOT RESPONSIBLE FOR ANY CLAIMS REGARDING A PRODUCT OR PRODUCTS ENTERED INTO COMMERCE THAT MAY BE BASED ON THIS TEST. BERKELEY ANALYTICAL PROVIDES THIS CERTIFICATE OF COMPLIANCE "AS IS" WITHOUT WARRANTY OF ANY KIND, EITHER EXPRESSED OR IMPLIED, INCLUDING BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY OR FITNESS FOR ANY PURPOSE.

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