Part II:

ProMar 200
LEED Submittal

LEED MATERIALS SUBMITTAL FORM

Instructions: *Complete this form for all building materials and products provided to the project. Write N/A in any field below that does not apply. Attach to this form the supporting documentation that verifies the information provided. NOTE: This is a* **LEED v4** *project.*

Project: _____

Sub-Contractor: _____ Specification Section: _____

Contact name: _____ Email: _____ Phone: _____ Date: _____

Material / Product name: _____ Material / Product cost (excluding labor): $ _____

Cost is: ☐ Actual ☐ Estimated Is this material part of the structure or enclosure? Yes ☐ No ☐

MRc2 Environmental Product Declaration (EPD) *EPD attached:* ☑ *Yes* ☐ *No*

Is an EPD available for this product / material? ☑ Yes ☐ No (if Yes, attach and continue)

EPD Program Operator: NSF Certification LLC

☑ ☐

☐

MRc3 Sourcing of Raw Materials *Supporting documentation attached* ☐ *Yes* ☑ *No* Pick option that applies

Option 1 – Raw Material Source and Extraction Reporting

Manufacturer have a Corporate Social Responsibility (CSR) Report? ☐ Yes ☑ No (If yes, attach)

Indicate the type of CSR report: ☐ Manufacturer Declared ☐ Third Party Verified

☐

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MRc4 Material Ingredients *Supporting documentation attached:* ☑ *Yes* ☐ *No* Pick option that applies

Option 1 – Material Ingredient Reporting

Does the product have a chemical ingredients inventory? ☑ Yes ☐ No (if Yes, continue)

☐ ☐

☐ ☑

☐ ☐

Option 2 – Material Ingredient Optimization

Does the product use materials ingredient optimization using following? ☐ Yes ☑ No (if Yes, attach)

☐ GreenScree v1.2 ☐ REACH Optimization

☐ Cradle to Cradle v2 Gold or V3 Silver ☐ Cradle to Cradle v2 Platinum or v3 Gold/Platinum

EQc2 Low Emitting Materials *Supporting documentation attached:* ☑ *Yes* ☐ *No*

Is the material applied on site, within building weather barrier? ☑ Yes ☐ No (if Yes, continue)

Is the product an inherently non-emitting source? ☐ Yes ☑ No (if No, continue)

What category does it belong to?

☑ Interior Paint & Coating ☐ Adhesive & Sealants ☐ Composite Wood

☐ Flooring ☐ Furniture ☐ Ceilings, Wall, or Insulation

VOC Emission requirements:

Product meets California Department of Public Health (CDPH) Std Method v1.1 -2010: ☑ Yes ☐ No

Does the product have any of the following emission certifications (check the option that applies):

☐ Berkeley Analytical ClearChem ☐ CHPS High Performance Product ☐ MAS Certified Green

☐ Intertek ETL Environmental VOC/VOC + ☑ UL Greenguard GOLD ☐ SCS Indoor Advantage GOLD

☐ RFCI FloorScore ☐ CRI Geen Label Plus ☐ Self-reported

Range of TVOCs after 14 days: ☑ 0.5 mg/m3 or less ☐ between 0.5 and 5.0 mg/m3 ☐ 5.0 mg/m3 or more

VOC Content requirements:

Check the VOC requirement from below that the product is compliant with:

☑ SCAQMD Rule 1113(Interior paint and coating) ☐ SCAQMD Rule 1168 (Interior Adhesive/Sealants)

☐ CARB ULEF or NAUF (Composite wood) ☐ ANSI/ BIFMA Std Method M7.1-2010 (Furniture)

Product type: Flat Paints and Coatings - 50 g/l

150

VOC Content (g/L) 0

ProMar® 200 Zero V.O.C.

Interior Latex Flat

B30-Series

CHARACTERISTICS

ProMar® 200 Zero V.O.C. Interior Latex Flat is a durable, professional quality, interior vinyl acrylic finish for use on walls and ceilings of primed plaster, wallboard, wood, masonry, and primed metal.

Color: Most Colors
To optimize hide and color development, always use the recommended P-Shade primer.

Coverage: 350-400 sq. ft. per gallon @ 4 mils wet 1.4 mils dry

Drying Time, @ 77° F, 50% RH:

Touch:	1 Hour
Recoat:	4 Hours

Drying and recoat times are temperature, humidity, and film thickness dependent.

Finish: 1.5-3.5 units @ 85°

Tinting with CCE only:

Base:	oz. per gallon:	Strength:
High Ref White	0-6	SherColor
Extra White	0-7	SherColor
Deep Base	4-12	SherColor
Ultradeep Base	10-12	SherColor
Real Red	0-12	SherColor
Bright Yellow	0-12	SherColor
Dover White		**Do Not Tint**

Extra White B30W12651
(may vary by color)

V.O.C. (less exempt solvents):
Less than 50 grams per litre; 0.42 lbs. per gallon
As per 40 CFR 59.406

Volume Solids:	34 ±2%
Weight Solids:	52 ±2%
Weight per Gallon:	11.45 lbs
Flash Point:	N.A.
Vehicle Type:	Vinyl Acrylic
Shelf Life:	36 months, unopened
WVP Perms (US):	70.83 grains/(hr ft2 in Hg)

Anti-microbial
This product contains agents which inhibit the growth of mold and mildew on the surface of this paint film.

COMPLIANCE

As of 06/29/2023, Complies with:

OTC	Yes
OTC Phase II	Yes
S.C.A.Q.M.D.	Yes
CARB	Yes
CARB SCM 2007	Yes
CARB SCM 2020	Yes
Canada	Yes
LEED® v4 & v4.1 Emissions	Yes
LEED® v4 & v4.1 V.O.C.	Yes
EPD-NSF® Certified	Yes
MIR-Manufacturer Inventory	Yes
MPI®	Yes

APPLICATION

Apply at temperatures above 50°F
No reduction needed.

Brush:
Use a nylon-polyester brush.

Roller:
Use a 3/8 to 3/4 inch nap synthetic cover.

For specific brushes and rollers, please refer to our Brush and Roller Guide on Sherwin-williams.com

Spray - Airless:

Pressure	2000 p.s.i.
Tip	.017-.021 inch

APPLICATION TIPS

Make sure product is completely agitated (mechanically or manually) before use.

Priming and application of two coats at the recommended film thickness can help where hiding of a previous coating or application to new drywall is a factor.

Using the same method of application and batch to touch up with as that originally used will help improve touch up.

When original application was by spray, preconditioning of touch up paint by running it through the spray tip will help touch up appearance.

SPECIFICATIONS

Block:
1 coat ConFlex Block Filler*
2 coats ProMar 200 Zero V.O.C. Interior Latex

Drywall:
1 coat ProMar 200 Zero V.O.C. Latex Primer
2 coats ProMar 200 Zero V.O.C. Interior Latex

Masonry:
1 coat Loxon Concrete & Masonry Primer*
2 coats ProMar 200 Zero V.O.C. Interior Latex

Plaster:
1 coat Loxon Concrete & Masonry Primer*
2 coats ProMar 200 Zero V.O.C. Interior Latex

Wood:
1 coat Premium Wall & Wood Primer*
2 coats ProMar 200 Zero V.O.C. Interior Latex

*These primers contain less than 50 grams per litre V.O.C.

Other primers may be appropriate.

When repainting involves a drastic color change, a coat of primer will improve the hiding performance of the topcoat color.

continued on back

ProMar® 200 Zero V.O.C.
Interior Latex Flat

SURFACE PREPARATION

WARNING! If you scrape, sand or remove old paint, you may release lead dust. LEAD IS TOXIC. EXPOSURE TO LEAD DUST CAN CAUSE SERIOUS ILLNESS, SUCH AS BRAIN DAMAGE, ESPECIALLY IN CHILDREN. PREGNANT WOMEN SHOULD ALSO AVOID EXPOSURE. Wear a **NIOSH**-approved respirator to control lead exposure. Clean up carefully with a **HEPA** vacuum and a wet mop. Before you start, find out how to protect yourself and your family by contacting the National Lead Information Hotline at **1-800-424-LEAD** or log on to **www.epa.gov/lead.**

Remove all surface contamination by washing with an appropriate cleaner, rinse thoroughly and allow to dry. Existing peeled or checked paint should be scraped and sanded to a sound surface. Glossy surfaces should be sanded dull. Stains from water, smoke, ink, pencil, grease, etc. should be sealed with the appropriate primer-sealer. Recognize that any surface preparation short of total removal of the old coating may compromise the service length of the system.

Caulking:
Gaps between walls, ceiling, crown moldings, and other interior trim can be filled with the appropriate caulk after priming the surface.

Drywall:
Fill cracks and holes with patching paste-spackle and sand smooth. Joint compounds must be cured and sanded smooth. Remove all sanding dust.

Masonry, Concrete, Cement, Block:
All new surfaces must be cured according to the supplier's recommendations – usually about 30 days. Remove all form release and curing agents. Rough surfaces can be filled to provide a smooth surface. If painting cannot wait 30 days, allow the surface to cure 7 days and prime the surface with Loxon Concrete & Masonry Primer.

SURFACE PREPARATION

Mildew:
Prior to attempting to remove mildew, it is always recommended to test any cleaner on a small, inconspicuous area prior to use. Bleach and bleaching type cleaners may damage or discolor existing paint films. Bleach alternative cleaning solutions may be advised. Mildew may be removed before painting by washing with a solution of 1 part liquid bleach and 3 parts clean water. Apply the solution and scrub the mildewed area. Allow the solution to remain on the surface for 10 minutes. Rinse thoroughly with clean water and allow the surface to dry before painting. Wear protective eyewear, waterproof gloves, and protective clothing. Quickly wash off any of the mixture that comes in contact with your skin. Do not add detergents or ammonia to the bleach-water solution.

Plaster:
Bare plaster must be cured and hard. Textured, soft, porous, or powdery plaster should be treated with a solution of 1 pint household vinegar to 1 gallon of clean water. Repeat until the surface is hard, rinse with clear water and allow to dry.

Wood:
Sand any exposed wood to a fresh surface. Patch all holes and imperfections with a wood filler or putty and sand smooth.

CAUTIONS

For interior use only.
Protect from freezing.
Non-Photochemically reactive.

Before using, carefully read **CAUTIONS on label**.

Use only with adequate ventilation. To avoid overexposure, open windows and doors or use other means to ensure fresh air entry during application and drying. If you experience eye watering, headaches, or dizziness, increase fresh air, or wear respiratory protection (**NIOSH** approved) or leave the area. Avoid contact with eyes and skin. Wash hands after using. Keep container closed when not in use. Do not transfer contents to other containers for storage. **FIRST AID:** In case of eye contact, flush thoroughly with large amounts of water. Get medical attention if irritation persists. If swallowed, call Poison Control Center, hospital emergency room, or physician immediately. **WARNING:** This product contains chemicals known to the State of California to cause cancer and birth defects or other reproductive harm. **DO NOT TAKE INTERNALLY. KEEP OUT OF THE REACH OF CHILDREN.**

HOTW	06/29/2023	B30W12650	15 00
HOTW	06/29/2023	B30W12651	26 00
HOTW	06/29/2023	B30W02653	32 00
HOTW	06/29/2023	B30T02654	34 00
HOTW	06/29/2023	B30R12658	06 00
HOTW	06/29/2023	B30Y02657	21 00
HOTW	06/29/2023	B30W02606	20 00

FRC, SP

CLEANUP INFORMATION

Clean spills, spatters, hands and tools immediately after use with soap and warm clean water. After cleaning, flush spray equipment with compliant cleanup solvent to prevent rusting of the equipment. Follow manufacturer's safety recommendations when using solvents.

Flame Spread Rating Information

In answer to your request for flame spread rating information regarding certain of our coatings products, most conventional paint systems, when applied at the recommended film thickness, will develop a "Class A" (0-25) flame spread rating over non-combustible, previously uncoated "Class A" rated substrates.

The chart below presents the results of flame spread tunnel testing on certain coatings systems. The tests were conducted by an independent laboratory in accordance with the provisions of ASTM E84. "Standard Test Method for Surface Burning Characteristics of Building Materials." This test method is similar to the test method specified in ANSI No.2.2, NFPA No. 255, UL No.723, UBC No. 421 and ASTM E84-75.

The flame spread rating for cured coatings not tested may be estimated based on the Flammability of Paint Study conducted by the National Paint and Coatings Association (NPCA) at Southwest Research Institute San Antonio, Texas Project 3-3774-141. This study evaluated paints representative of those sold in the modern consumer market. In summary, the study concluded: "conventional pigmented paints of all types made little change in the flame spread ratings of the uncoated substrates and made insignificant changes in the fuel and smoke factors. We believe this study provides substantial evidence that conventional paints and coatings do not increase the flame spread of either non-flammable or flammable substrates upon which they are applied. It also indicates that any fuel contribution or smoke density increase is insignificant when compared with the contribution of the substrate itself."* Therefore, most conventional paint systems, when applied at the recommended film thickness and cured, will develop a "Class A" flame spread rating over a non-combustible previously uncoated substrate.

The flame spread and smoke development indexes are based on The National Fire Protection Association NFPA 101 Life Safety Code. Those ratings for interior walls and ceilings are:

Class A: Flame Spread Index = 0 – 25	Smoke Developed Index = 0 – 450
Class B: Flame Spread Index = 26 – 75	Smoke Developed Index = 0 – 450
Class C: Flame Spread Index = 76 – 200	Smoke Developed Index = 0 – 450

SUBSTRATE STANDARDS

1/4 inch Inorganic Reinforced Cement Board: Flame Spread Index = 0	Smoke Developed Index = 0
GRC Board: Flame Spread Index = 0	Smoke Developed Index = 0
Red Oak Flooring: Flame Spread Index = 100	Smoke Developed Index = 100
23/32 inch Plywood Sheathing: Flame Spread Index = 125	Smoke Developed Index = 75

Test are rounded to the nearest multiple of 5.

SHERWIN-WILLIAMS TEST DATA:	FLAME SPREAD	SMOKE DEVELOPMENT	FLAME SPREAD CLASS	SUBSTRATE INDEX
ProMar® 400 Zero VOC (Low Sheen-vinyl acrylic)	5	0	Class A	.625" Type X Gypsum
ProMar® 400 Zero VOC (Semi-Gloss-vinyl acrylic)	0	0	Class A	.625" Type X Gypsum
ProMar® 400 Zero VOC (Flat-vinyl acrylic)	5	5	Class A	.625" Type X Gypsum
ProMar® 400 Zero VOC (Primer-vinyl acrylic)	5	0	Class A	.625" Type X Gypsum
ProMar® 400 Zero VOC (Eg-Shel-vinyl acrylic)	10	0	Class A	.625" Type X Gypsum
Harmony® (Flat 100% Acrylic)	10	0	Class A	.625" Type X Gypsum
Harmony® (Eg-Shel 100% Acrylic)	15	0	Class A	.625" Type X Gypsum
ProMar® 200 Zero VOC (Flat-vinyl acrylic)	10	0	Class A	.625" Type X Gypsum
ProMar® 200 Zero VOC (Primer-vinyl acrylic)	5	0	Class A	.625" Type X Gypsum
ProMar® 200 Zero VOC (Eg-Shel-vinyl acrylic)	10	0	Class A	.625" Type X Gypsum
ProMar® 200 Zero VOC (Low Sheen-vinyl acrylic)	10	0	Class A	.625" Type X Gypsum
ProMar® 200 Zero VOC (Semi-Gloss-vinyl acrylic)	5	0	Class A	.625" Type X Gypsum
PrepRite® ProBlock® Latex Primer (acrylic primer)	10	0	Class A	.625" Type X Gypsum

As a general rule, the substrate itself may contribute significantly to the overall flame spread rating of a system comprised of a coating applied over the substrate. As a guide, non-combustible substrates such as cement asbestos board and plaster have a flame spread rating of zero and, when coated, do not contribute significantly to the flame spread rating of the system. One study indicates that a system comprised of coated conventional drywall may yield a flame spread rating within Flame Spread Class A, but slightly higher than that of a system comprised of a non-combustible substrate.* Conventional paint systems applied over these types of substrates do not contribute significantly to the overall flame spread rating of the system. On combustible substrates that burn readily, such as a wood surface that has not been treated to resist burning, standard coatings do nothing to prevent the substrate from burning. That is, conventional paint systems do not significantly reduce the flame spread rating of a combustible substrate. However, special fire retardant or intumescent coatings can be applied to readily combustible substrates such as wood to reduce the overall flame spread rating of the system.

References:

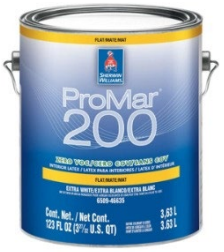
The National Fire Protection Association NFPA 101 Life Safety Code
ASTM E84. "Standard Test Method for Surface Burning Characteristics of Building Materials"
* National Paint and Coatings Association, Inc. 1500 Rhodes Island Ave, N.W. Washington D.C. 20005. Flammability of Paint Study, Project 3-3774-141 Southwest Research Institute San Antonio, Texas.

Environmental Product Declaration – ProMar® 200 Zero VOC[1]

1

Professional painters have it all with ProMar® 200 Zero VOC Interior Latex Paint. A complete professional line that not only has zero VOCs, but is also available in six sheens and every color. All while delivering maximum productivity with exceptional durability and touch up. And now, the flat sheen has improved hide and durability, and meets MPI certification. For additional information, please visit www.sherwin-williams.com.

The product image to the right is an example of one of the formulas covered by the EPD. A list of all relevant ProMar 200 Zero VOC formulas is shown in Table 1 on page 2 of the EPD.



2

Program Operator	NSF Certification LLC
Declaration Holder	The Sherwin-Williams Company
Declaration Prepared by	Doug Mazeffa (sustainability@sherwin.com)
Declaration Number	EPD10477
Declared Product	ProMar 200 Zero VOC
Product Category and Subcategory	Architectural Coatings – Interior Coatings
Program Operator	NSF Certification LLC ncss@nsf.org
Reference PCR	PCR for Architectural Coatings

Date of Issue	November 10, 2020
Period of Validity	5 Years

Contents of the Declaration	– Product definition and material characteristics – Overview of manufacturing process – Information about in-use conditions – Life cycle assessment results – Testing verifications

The PCR review was conducted by	Thomas P. Gloria, Ph. D. Industrial Ecology Consultants t.gloria@industrial-ecology.com

This EPD was independently verified by NSF Certification LLC in accordance with ISO 21930 and ISO 14025. **☐ Internal ☒ External**	Jenny Oorbeck joorbeck@nsf.org
This life cycle assessment was independently verified in accordance with ISO 14044 and the reference PCR by	Jack Geibig - EcoForm jgeibig@ecoform.com

Functional Unit:	1m^2 of covered and protected substrate for a period of 60 years (the assumed average lifetime of a building)
LCA Software Used	GaBi (Most Recent Version)
Market-Based Lifetime Used in Assessment	5 years
Design Lifetime Used in Assessment	3 or 7 years depending on base.
Test Methods Used to Calculate Design Life	ASTM D2805-11, ASTM D2486-06, ASTM D6736-08, ASTM D4828-94
Estimated Amount of Colorant	Varies (see Table 2)
Data Quality Assessment Score	Very Good
Manufacturing Location(s)	Various Plants Throughout the United States

[1] *In order to support comparative assertions, this EPD meets all comparability requirements stated in ISO 14025:2006. However, differences in certain assumptions, data quality, and variability between LCA data sets may still exist. As such, caution should be exercised when evaluating EPDs from different manufacturers, as the EPD results may not be entirely comparable. Any EPD comparison must be carried out at the building level per ISO 21930 guidelines. The results of this EPD reflect an average performance by the product and its actual impacts may vary on a case-to-case basis.*

Product Definition:

ProMar 200 Zero VOC is a family of interior architectural coatings manufactured by The Sherwin-Williams Company, headquartered in Cleveland, Ohio. ProMar 200 Zero VOC is manufactured in a number of Sherwin-Williams facilities across the United States. These coatings are designed to cover and protect architectural surfaces such as walls and ceilings. For information about specific products, please visit www.sherwin-williams.com.

Product Classification and Description:

The ProMar 200 Zero VOC products listed below are included within this assessment. The primary differences between these products are gloss levels (sheen) and base types. For information on other attributes of each of the specific formulations, please visit www.sherwin-williams.com.

Table 1. List of ProMar 200 Zero VOC Formulas Assessed by LCA Model and Report.

Product Number	Base Type as Defined by PCR
B28W02600	Primer
B30W12650	Tintable White
B30W12651	Tintable White
B30W02653	Deep Base
B30T02654, B30R12658, B30Y02657, B30W0206	Ultra Deep Base
B24W02651	Tintable White
B24W02650	Tintable White
B24W02653	Deep Base
B24T02654, B24R02658 B24Y02657	Ultra Deep Base
B41W02651	Tintable White
B41W02650	Tintable White
B41W02653	Deep Base
B41T02654	Ultra Deep Base
B20W12650	Tintable White
B20W12651	Tintable White
B20W02653	Deep Base

Product Number	Base Type as Defined by PCR
B20T02654, B20R12658, B20Y02657, B20W02606	Ultra Deep Base
B31W02651	Tintable White
B31W02650	Tintable White
B31W02653	Deep Base
B31T02654, B31R12658, B31Y02657, B31W02606	Ultra Deep Base
B21W12651	Tintable White

Under the Product Category Rule (PCR) for Architectural Coatings, ProMar 200 Zero VOC falls under the following heading:

- "a decorative or protective paint or coating that is formulated for interior or exterior architectural substrates including, but not limited to: drywall, stucco, wood, metal, concrete, and masonry."

Architectural coatings are manufactured in a way similar to other paint and coating products. Raw materials are manually added in appropriate quantities into a high-speed disperser which are mixed. The product is then moved via compressed air or gravity and filled into containers and transported to the distribution center and finally to the point of sale. A customer travels to the store to purchase the product and transports the coating to the site where it is applied. The applied coating adheres to the substrate where it remains until the substrate is disposed. Any unused coating will be disposed as well. Because the functional unit mandates a 60-year product life, multiple repaints were necessary and were accounted for by the LCA models.

The typical composition of an interior ProMar 200 Zero VOC coating is shown by % weight below.

- Water (35%-60%)
- Resin (7%-30%)
- Extender Pigments (5%-30%)
- *Calcium Carbonate (0%-50%)*
- Titanium Dioxide [CAS # 13463-97-7] (0-23%)
- *Vinyl Chloride Polymer [CAS # 24742-65-0] (0%-20%)*
- *Additives (1%-5%)*
- *Kaolin [CAS # 1332-58-7] (0%-6%)*
- *Amorphous Silica [CAS # 7631-86-9] (0%-3%)*
- *Aluminum Hydroxide [CAS # 21645-51-2] (0%-3%)*
- *Crystalline Silica [CAS # 14808-60-7] (0%-1%)*
- *2-Ethyl-2(hydroxymethyl)-1,3-propanedoil [CAS #77-99-6] (0-0.2%)*

Other than the materials listed above in italics with specific CAS Numbers, there are no additional ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified as hazardous to health or the environment and hence require reporting under the Global Harmonized Standard. The ranges reflect that many of these materials may only appear in one or two bases across the entire product line. For additional information about product hazards, please refer to the Safety Data Sheet for the specific ProMar 200 Zero VOC formula available on www.sherwin-williams.com.

About Sherwin-Williams:

For more than 150 years, Sherwin-Williams has provided contractors, builders, property managers, architects and designers with the trusted products they need to build their business and satisfy customers. ProMar 200 Zero VOC Interior Latex is just one more way we bring you industry-leading paint technology — innovation you can pass on to your customers. Plus, with more than 4,000 stores and 2,400 sales representatives across North America, personal service and expert advice is always available near jobsites. Find out more about ProMar 200 Zero VOC at your nearest Sherwin-Williams store or to have a sales representative contact you, call 800-524-5979.

Definitions:

Acronyms & Abbreviated Terms:

- **ACA:** American Coating Association
- **ASTM**: A standards development organization that serves as an open forum for the development of international standards. ASTM methods are industry-recognized and approved test methodologies for demonstrating the durability of an architectural coating in the United States.
- **ecoinvent:** a life cycle database that contains international industrial life cycle inventory data on energy supply, resource extraction, material supply, chemicals, metals, agriculture, waste management services, and transport services.
- **EPA WARM model**: Unite States Environmental Protection Agency Waste Reduction Model.
- **EPD**: Environmental Product Declaration. EPDs are form of as Type III environmental declarations under ISO 14025. They are the summary document of data collected in the LCA as specified by a relevant PCR. EPDs can enable comparison between products if the underlying studies and assumptions are similar.
- **GaBi:** Created by PE INTERNATIONAL GaBi Databases are LCA databases that contain ready-to-use Life Cycle Inventory profiles.
- **LCA**: Life Cycle Assessment or Analysis. A technique to assess environmental impacts associated with all the stages of a product's life from cradle to grave (i.e., from raw material extraction through materials processing, manufacture, distribution, use, repair and maintenance, and disposal or recycling).
- **NCSS**: NSF International's National Center for Sustainability Standards
- **PCR**: Product Category Rule. A PCR defines the rules and requirements for creating EPDs of a certain product category.
- **TRACI**: Tool for the Reduction and Assessment of Chemical and Other Environmental Impacts.

Terminology:

- **Architectural coating:** a coating recommended for field application to stationary structures or their appurtenances at the site of installation, to portable buildings, to pavements, or to curbs. For purposes of this PCR an 'architectural coating' does not include adhesives and coatings for shop applications or original equipment manufacturing, nor does it include coatings solely for application to non-stationary structures, such as airplanes, ships, boats, and railcars. *Please see the product category requirements in Section 1.1 of the PCR.*
- **Biologic growth or bio deterioration:** any undesirable change in material properties brought about by the activities of microorganisms.
- **Blistering**: the formation of dome shaped hollow projections in paints or varnish films resulting from the local loss of adhesion and lifting of the film from the surface or coating.
- **Burnish resistance**: the resistance of a coating to an increase in gloss or sheen due to polishing or rubbing.
- **Design life**: The estimated lifetime of a coating based solely on its hiding and performance characteristics determined by results in certain ASTM durability tests.

- **Durability**: the degree to which coatings can withstand the destructive effect of the conditions to which they are subjected and how long they retain an acceptable appearance and continue to protect the substrate.
- **Erosion:** the wearing away of the top coating of a painted surface e.g., by chalking, or by the abrasive action of windborne particles of grit, which may result in exposure of the underlying surface. The degree of resistance is dependent on the amount of coating retained.
- **Flaking/Peeling**: the phenomenon manifested in paint films by the actual detachment of pieces of the film itself either from its substrate or from paint previously applied. Peeling can be considered as an aggravated form of flaking. It is frequently due to the collection of moisture beneath the film.
- **Gloss:** a value of specular reflection which is often used to categorize certain types of paints.
- **Intermediate processing**: the conversion of raw materials to intermediates (e.g. titanium dioxide ore into titanium dioxide pigment, etc.).
- **Market-based life:** The estimated lifetime of a coating based off the actual use pattern of the product type. In this instance, a repaint may occur before the coating fails.
- **Pigment:** the material(s) that give a coating its color.
- **Primary materials**: resources extracted from nature. Examples include titanium dioxide ore, crude oil, etc. that are used to create basic materials used in the production of architectural coatings (e.g., titanium dioxide).
- **Resin/Binder:** acts as the glue or adhesive to adhere the coating to the substrate.
- **Scrubbability or scrub resistance:** the ability of a coating to resist being worn away or to maintain its original appearance when rubbed repetitively with an abrasive material.
- **Secondary materials**: recovered, reclaimed, or recycled content that is used to create basic materials to be used in the production of architectural coatings.
- **Washability:** the ease with which the dirt can be removed from a paint surface by washing; also refers to the ability of the coating to withstand washing without removal or substantial damage.

Underlying Life Cycle Assessment Methodology:

Functional Unit:

Per the reference PCR, the functional unit for the study was covering and protecting 1m^2 of substrate for a period of 60 years (the assumed lifetime of a building). The product has no additional functionalities beyond what is stated by the functional unit.

In the reference PCR, product life for interior architectural coatings was calculated both in terms of a typical market life (5 years) and a technical life (either 3,7, or 15 years depending on performance in certain durability tests/methodologies prescribed in the reference PCR). In order to determine the design life of the ProMar 200 Zero VOC formulas, the following durability test methodologies (which were stated in the reference PCR) were utilized:

- ASTM D2805-11 – Opacity (if relevant)
- ASTM D2486-06(2012)e1 – Scrub Resistance
- ASTM D6736-08(2013) – Burnish
- ASTM D4828-94(2012)e1 - Washability

Based on the durability test results, the appropriate quality levels and coating quantities were derived for each ProMar 200 Zero VOC formula. If testing results were unavailable for a formula, then it was assumed to be of 'low' quality. This is consistent with the reference PCR.

Table 2. Formula Lifetimes and Quantity of Coating Needed to Satisfy Functional Unit

Formula	Quality Level	Technical Lifetime	Market Lifetime	Technical Lifetime Quantity Needed (kg)	Market Lifetime Quantity Needed (kg)	Technical Lifetime Tint Needed (g)	Market Lifetime Tint Needed (g)
B28W02600	Primer	N/A	5 years	N/A	1.38	0	0
B30W12650	Mid	7 years	5 years	1.11	1.48	26	34
B30W12651	Mid	7 years	5 years	1.10	1.47	25	34
B30W02653	Low	3 years	5 years	3.29	1.57	204	97
B30T02654, B30R12658, B30Y02657, B30W0206	Mid	7 years	5 years	0.87	1.15	67	90
B24W02651	Mid	7 years	5 years	1.12	1.50	26	34
B24W02650	Mid	7 years	5 years	1.12	1.50	26	34
B24W02653	Mid	7 years	5 years	1.06	1.42	66	88
B24T02654, B24R02658, B24Y02657	Mid	7 years	5 years	1.06	1.41	82	110
B41W02651	Mid	7 years	5 years	1.08	1.44	25	33
B41W02650	Mid	7 years	5 years	1.10	1.46	25	34

B41W02653	Mid	7 years	5 years	1.02	1.36	63	84
B41T02654	Mid	7 years	5 years	0.98	1.31	76	102
B20W12650	Mid	7 years	5 years	1.10	1.46	25	34
B20W12651	Mid	7 years	5 years	1.04	1.38	24	32
B20W02653	Mid	7 years	5 years	0.97	1.29	60	80
B20T02654, B20R12658, B20Y02657, B20W02606	Mid	7 years	5 years	0.93	1.24	73	97
B31W02651	Mid	7 years	5 years	0.99	1.32	23	30
B31W02650	Mid	7 years	5 years	1.03	1.37	24	32
B31W02653	Mid	7 years	5 years	0.92	1.23	57	76
B31T02654, B31R12658, B31Y02657, B31W02606	Mid	7 years	5 years	0.89	1.19	70	93
B21W12651	Mid	7 years	5 years	0.92	1.23	21	28

Tinting:

As stated in the reference PCR, the tint/colorant inventory was taken from thinkstep carbon black pigment data in the appropriate quantity specified by the type of coating base for that ProMar 200 Zero VOC formula. The amount of colorant needed for each formula is shown in Table 2 above. It should be noted that since reliable LCIs did not exist for most colorants, packaged colors were assessed using the carbon black pigment named by the reference PCR and treated as Ultra-Deep bases.

The impact of the tint is included in the overall LCIA results but is not reported individually since it is not a differentiator between formulas or the eventual EPDs. It should be noted that ProMar formula B28W02600 does not accept a tint because it is a primer coating.

Allocation Rules:

In accordance with the reference PCR, allocation was avoided whenever possible, however if allocation could not be avoided, the following hierarchy of allocation methods was utilized:

- Mass, or other biophysical relationship; and
- Economic value.

In the LCA models, mass allocation was ONLY used during packaging and end of life-stages.

Treatment of Biogenic Carbon:

In accordance with the reference PCR, global warming values were calculated and presented both including and excluding biogenic carbon.

System Boundary:

This LCA included all relevant steps in the coating manufacturing process as described by the reference PCR. The system boundary began with the extraction of raw materials to be used in the ProMar 200 Zero VOC coating and its formulas are manufactured in a way similar to other architectural paint and coating products. The raw materials are manually added in appropriate quantities into a high-speed disperser which are mixed. The product is then moved via compressed air or gravity and filled into containers and shipped to a distribution center and then to the point of sale. A customer travels to the store to purchase the product and transports the coating to the site where it is applied. The applied coating adheres to the substrate where it remains until the substrate is disposed. Any unused coating will be disposed by the customer as well. Because the functional unit mandates a 60-year product life, multiple repaints were necessary and were accounted for by the LCA models. The system boundary ends with the end-of-life stage. This can be seen in Figure 1, below.

As described in the reference PCR, the following items were excluded from the assessment and they were expected to not substantially affect the results.

- personnel impacts;
- research and development activities;
- business travel;
- any secondary packaging (pallets, for example);
- all point of sale infrastructure; and
- the coating applicator.

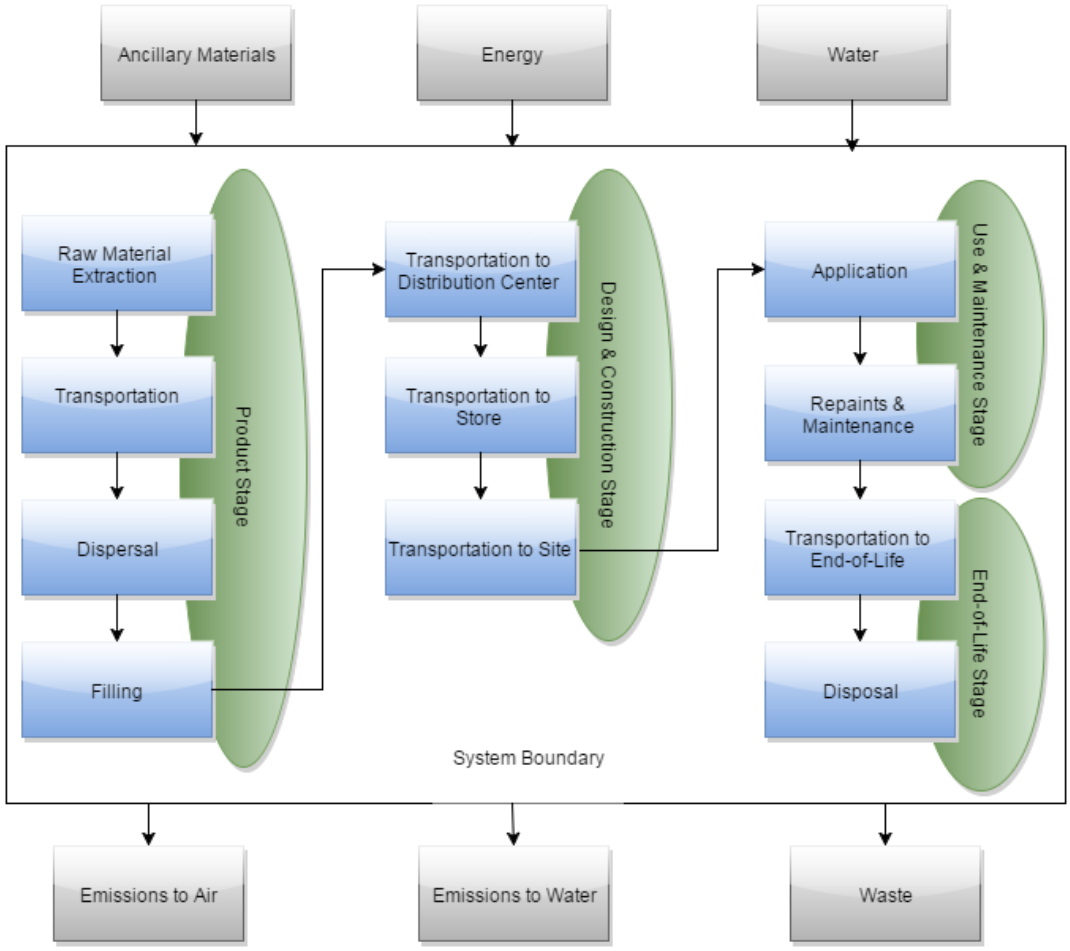


Figure 1. Diagram of System Boundary for the EPD.

Cut-Off Rules:

The cut-off rules prescribed by the reference PCR required a minimum of 95% of the total mass, energy, and environmental relevance be captured by the LCA models. All formulas were modeled to at least 99.6% of their material content by weight. No significant flows were excluded from the LCA models and the 5% threshold prescribed by the PCR was not exceeded.

Data Sources & Quality:

When primary data was unavailable, data was taken from either thinkstep, ecoinvent, or CEPE's coating industry life cycle inventory. The data from thinkstep and ecoinvent are widely accepted by the LCA community and the CEPE database has been built using those databases as a foundation. A brief description of these databases is below:

Table 3. Overview of Databases used in LCA Models.

Database	Comments
Sherwin-Williams	Primary source data taken as an average monthly value over a 12-month average of 2019 relevant facilities operation metrics.
thinkstep/GaBi	DB Version 8.6.20
ecoinvent	Version 3.3 – Most recent version available in GaBi.
CEPE LCI	Most recent version of industry LCI. Last updated in 2020. Made up of refined data from thinkstep and ecoinvent so that it is more representative of coating manufacturing. Primarily limited to EU data, although some processes are global.

Precision and Completeness:

Annual averages from the 2019 calendar year of primary data was used for all gate-gate processes and the most representative inventories were selected for all processes outside of Sherwin-Williams' direct operational control. Secondary data was primarily drawn from the most recent GaBi and ecoinvent databases and CEPE's coating life cycle inventory. All of these databases were assessed in terms of overall completeness.

Assumptions relating to application and disposal were conformant with the reference PCR. All data used in the LCA models was less than five years old. Pigment data was taken from ecoinvent and resin data was taken from primary sources and GaBi databases.

Consistency and Reproducibility:

In order to ensure consistency, primary source data was used for all gate-to-gate processes in coating manufacturing. All other secondary data were applied consistently and any modifications to the databases were documented in the LCA Report.

Reproducibility is possible using the LCIs documented in the LCA Report.

Temporal Coverage:

Primary data was collected from the manufacturing facilities from the 2019 calendar year. Secondary data reflected the most up-do-date versions of the LCA databases mentioned above.

Geographic Coverage:

ProMar 200 Zero VOC is manufactured by the Sherwin-Williams Company entirely within the United States. Given that the facilities making ProMar 200 Zero VOC are spread across the United States, the average US grid mix was used in the LCA models. ProMar 200 Zero VOC products are purchased, used, and the unused portions are disposed by the customer throughout the US as well.

Life Cycle Impact Assessment:

The purpose of the Life Cycle Impact Assessment (LCIA) is to show the link between the life cycle inventory results and potential environmental impacts. As such, these results are classified and characterized into several impact categories which are listed and described below. The TRACI 2.1 method was used and the LCIA results are formatted to be conformant with the PCR, which was based on ISO 21930. The TRACI method is widely accepted for use in the US and was developed by the US EPA.

Table 4. Overview of Impact Categories[2]

Overview of LCA Impact Categories	
Impact Category Name	***Description of Impact Category***
Global Warming Potential 	*"Global warming is an average increase in the temperature of the atmosphere near the Earth's surface and in the troposphere, which can contribute to changes in global climate patterns. Global warming can occur from a variety of causes, both natural and human induced. In common usage, "global warming" often refers to the warming that can occur as a result of increased emissions of greenhouse gases from human activities" (US Environmental Protection Agency 2008b).* *Biogenic carbon was both included and excluded in the analysis as stipulated by the PCR.*
Ozone Depletion Potential 	*Ozone within the stratosphere provides protection from radiation, which can lead to increased frequency of skin cancers and cataracts in the human populations. Additionally, ozone has been documented to have effects on crops, other plants, marine life, and human-built materials. Substances which have been reported and linked to decreasing S-10637-OP-1-0 REVISION: 0 DATE: 6/22/2012 Page 13 | 24 Document ID: S-10637-OP-1-0 Date: 7/24/2012 the stratospheric ozone level are chlorofluorocarbons (CFCs) which are used as refrigerants, foam blowing agents, solvents, and halons which are used as fire extinguishing agents (US Environmental Protection Agency 2008j).*
Acidification Potential 	*Acidification is the increasing concentration of hydrogen ion (H+) within a local environment. This can be the result of the addition of acids (e.g., nitric acid and sulfuric acid) into the environment, or by the addition of other substances (e.g., ammonia) which increase the acidity of the environment due to various chemical reactions and/or biological activity, or by natural circumstances such as the change in soil concentrations because of the growth of local plant species n (US Environmental Protection Agency 2008q).*
Smog Formation Potential 	*Ground level ozone is created by various chemical reactions, which occur between nitrogen oxides (NOx) and volatile organic compounds (VOCs) in sunlight. Human health effects can result in a variety of respiratory issues including increasing symptoms of bronchitis, asthma, and emphysema. Permanent lung damage may result from prolonged exposure to ozone. Ecological impacts include damage to various ecosystems and crop damage. The primary sources of ozone precursors are motor vehicles, electric power utilities and industrial facilities (US Environmental Protection Agency 2008e).*
Eutrophication Potential 	*Eutrophication is the "enrichment of an aquatic ecosystem with nutrients (nitrates, phosphates) that accelerate biological productivity (growth of algae and weeds) and an undesirable accumulation of algal biomass" (US Environmental Protection Agency 2008d).*

[2] See EPA TRACI References for Additional Details

Life Cycle Impact Assessment Results:

The LCA results are documented and grouped separately below into the following stages as defined by ISO 21930.

- Total Impact (across the entire cradle-grave lifecycle including tinting)
- Product Stage (Stage 1)
- Construction & Design Stage (Stage 2)
- Use & Maintenance Stage (Stage 3)
- End-Of-Life Stage (Stage 4)

No weighting or normalization was done to the results. At this time, it is not recommended to weight the results of the LCA or the subsequent EPD. It is important to remember that LCA results show potential and expected impacts and these should not be used as firm thresholds/indicators of safety and/or risk. As with all scientific processes, there is uncertainty within the calculation and measurement of all impact categories and care should be taken when interpreting the results.

Results:

The results of the LCA are shown in the tables below. LCIA results for each life cycle stage as defined by ISO 21930 are shown graphically in Figure 2.

Table 5. LCA Results for Technical Life Scenario.

	GWP Inc Bio Carb (kg CO2e)	GWP Exc Bio Carb (kg CO2e)	Acidification (kg SO2e)	Eutrophication (kg N e)	Ozone Depletion (kg CFC -11e)	Smog Formation (kg O3e)
B28W02600	N/A	N/A	N/A	N/A	N/A	N/A
B30W12650	2.23	2.23	0.49	1.19E-03	5.87E-08	0.15
B30W12651	2.18	2.18	0.35	9.11E-04	4.77E-08	0.11
B30W02653	5.91	5.91	0.11	9.83E-03	2.64E-07	0.39
B30T02654, B30R12658, B30Y02657, B30W0206	2.54	2.54	0.40	1.42E-03	5.26E-08	0.12
B24W02651	2.38	2.38	0.56	7.67E-03	2.20E-07	0.21
B24W02650	2.62	2.62	0.55	1.38E-03	3.79E-08	0.17
B24W02653	2.35	2.35	0.43	1.26E-03	3.76E-08	0.14
B24T02654, B24R02658 B24Y02657	2.27	2.27	0.39	1.22E-03	4.30E-08	0.13
B41W02651	2.49	2.46	0.42	1.29E-03	5.93E-08	0.12
B41W02650	2.56	2.56	0.54	1.43E-03	5.39E-08	0.17
B41W02653	2.36	2.36	0.44	1.35E-03	5.83E-08	0.13
B41T02654	2.26	2.26	0.39	1.27E-03	5.26E-08	0.12
B20W12650	2.65	2.65	0.56	1.51E-03	5.63E-08	0.17
B20W12651	2.54	2.54	0.60	7.91E-03	2.11E-07	0.22
B20W02653	2.68	2.68	0.36	4.42E-03	1.29E-07	0.16
B20T02654, B20R12658 B20Y02657, B20W0206	2.05	2.05	0.35	1.14E-03	4.35E-08	0.11
B31W02651	3.15	3.15	0.71	9.15E-03	2.44E-07	0.25
B31W02650	2.69	2.69	0.56	1.52E-03	5.76E-08	1.67
B31W02653	2.38	2.38	0.45	1.64E-03	5.89E-08	0.13
B31T02654, B31R12658 B31Y02657, B31W02606	2.31	2.31	0.41	1.61E-03	5.93E-08	0.12
B21W12651	2.26	2.26	0.33	1.32E-03	5.78E-08	0.09

Table 6. LCA Results for Market Life Scenario.

	GWP Inc Bio Carb (kg CO2e)	GWP Exc Bio Carb (kg CO2e)	Acidification (kg SO2e)	Eutrophication (kg N e)	Ozone Depletion (kg CFC -11e)	Smog Formation (kg O3e)
B28W02600	2.38	2.38	0.57	8.34E-03	2.10E-07	0.22
B30W12650	2.97	2.97	0.65	1.58E-03	7.83E-08	0.20
B30W12651	2.91	2.91	0.47	1.21E-03	6.36E-08	0.15
B30W02653	3.55	3.55	0.69	5.90E-03	1.59E-07	0.23

B30T02654, B30R12658, B30Y02657, B30W0206	3.38	3.38	0.53	1.89E-03	7.01E-08	0.16
B24W02651	3.20	3.20	0.75	1.02E-02	2.61E-07	0.28
B24W02650	3.49	3.49	0.74	1.85E-03	5.05E-08	0.23
B24W02653	3.13	3.13	0.58	1.67E-03	5.02E-08	0.18
B24T02654, B24R02658 B24Y02657	3.02	3.02	0.52	1.62E-03	5.74E-08	0.17
B41W02651	3.32	3.28	0.56	1.72E-03	7.91E-08	0.17
B41W02650	3.41	3.41	0.72	1.90E-03	7.19E-08	0.22
B41W02653	3.15	3.15	0.58	1.79E-03	7.77E-08	0.18
B41T02654	3.01	3.01	0.52	1.69E-03	7.01E-08	0.16
B20W12650	3.53	3.53	0.75	2.02E-03	7.51E-08	0.23
B20W12651	3.65	3.65	0.86	1.06E-02	2.81E-07	0.29
B20W02653	3.55	3.55	0.71	5.90E-03	1.72E-07	0.22
B20T02654, B20R12658 B20Y02657, B20W02606	2.73	2.73	0.46	1.52E-03	5.79E-08	0.14
B31W02651	4.20	4.20	0.95	1.22E-02	3.25E-07	0.33
B31W02650	3.59	3.59	0.75	2.03E-03	7.68E-08	2.22
B31W02653	3.17	3.17	0.60	2.19E-03	7.85E-08	0.17
B31T02654, B31R12658 B31Y02657, B31W02606	3.08	3.08	0.54	2.15E-03	7.90E-08	0.16
B21W12651	3.01	3.01	0.44	1.76E-03	7.71E-07	0.12

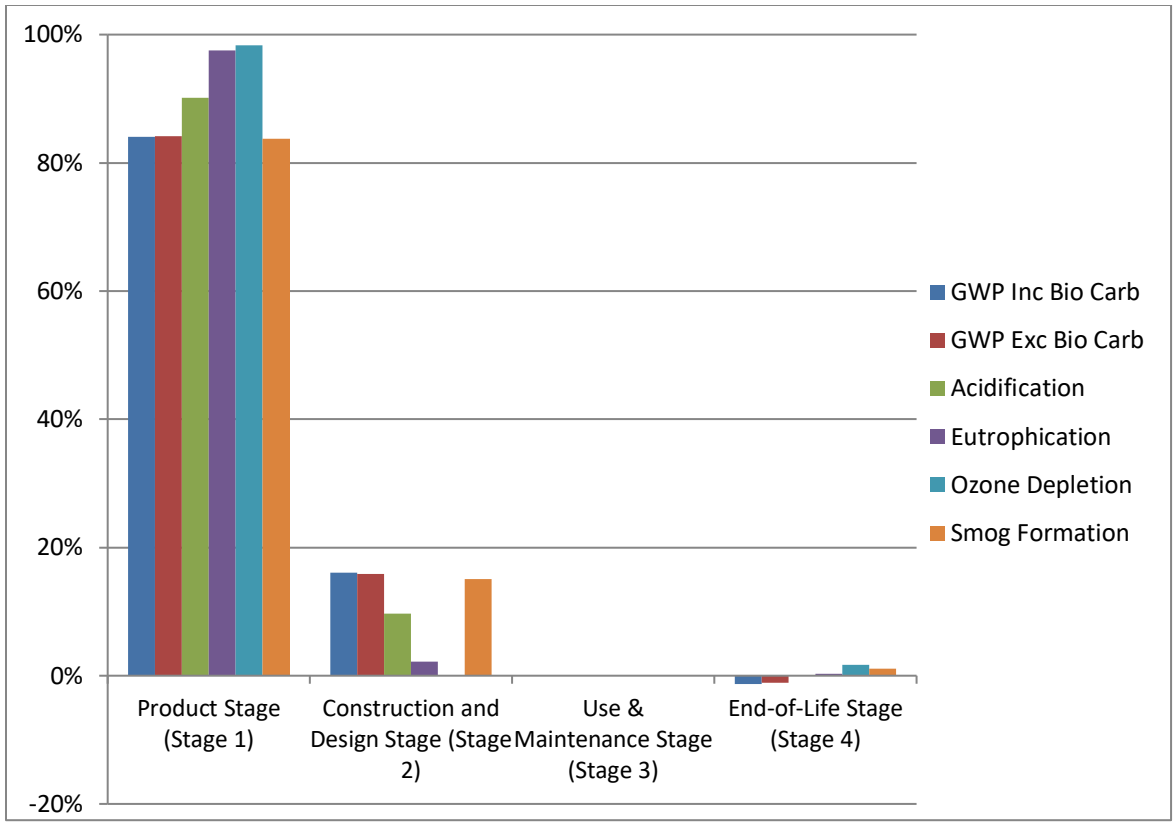


Figure 2. Impact Category Result Breakdown by ISO 21930 Stage for Average ProMar 200 Formulation.

Table 7. Energy, Resource, and Waste Results for Technical and Market Life Scenarios (Based on Average ProMar 200 Zero VOC Formulation).

(TECHNICAL LIFE)	TOTAL	Stage 1	Stage 2	Stage 3	Stage 4
Non-Renew. Energy (MJ)	40.89	34.14	6.52	0.00	0.23
Use of Renewable Primary Energy (MJ)	1.65	1.38	0.26	0.00	0.01
Use of Non-Renew Mat. Resources (kg)	1.94	1.62	0.31	0.00	0.01
Use of Renewable Mat. Resources (kg)	1027.00	857.41	163.85	0.06	5.69
Consumption of Freshwater (m3)	0.74	0.62	0.12	0.00	0.00
Hydro Power (MJ)	0	0	0	0	0
Fossil Energy (MJ)	33.67	28.11	5.37	0.00	0.19
Nuclear Energy (MJ)	1.43	1.19	0.23	0.00	0.01
Other Energy (MJ)	0	0	0	0	0
Secondary Fuels (MJ)	0	0	0	0	0
Recycled Materials (kg)	0	0	0	0	0
Secondary Raw Materials (kg)	0	0	0	0	0
Non-Hazardous Waste	68.25%	N/A	N/A	N/A	N/A
Hazardous Waste	31.75%	N/A	N/A	N/A	N/A

(MARKET LIFE)	Total	Stage 1	Stage 2	Stage 3	Stage 4
Non-Renew. Energy (MJ)	57.13	47.70	9.11	0.00	0.32
Use of Renewable Primary Energy (MJ)	2.69	2.25	0.43	0.00	0.01
Use of Non-Renew Mat. Resources (kg)	3.16	2.64	0.50	0.00	0.02
Use of Renewable Mat. Resources (kg)	1671.00	1395.06	266.59	0.09	9.25
Consumption of Freshwater (m3)	1.21	1.01	0.19	0.00	0.01
Hydro Power (MJ)	0	0	0	0	0
Fossil Energy (MJ)	54.80	45.75	8.74	0.00	0.30
Nuclear Energy (MJ)	2.33	1.95	0.37	0.00	0.01
Other Energy (MJ)	0	0	0	0	0
Secondary Fuels (MJ)	0	0	0	0	0
Recycled Materials (kg)	0	0	0	0	0
Secondary Raw Materials (kg)	0	0	0	0	0
Non-Hazardous Waste	68.25%	N/A	N/A	N/A	N/A
Hazardous Waste	31.75%	N/A	N/A	N/A	N/A

Specific resource metrics for a ProMar 200 Zero VOC formula are available upon request. These results were not reported in the EPD to maintain simplicity. Please contact sustainability@sherwin.com for the specific resource results for an individual ProMar 200 Zero VOC formula.

Interpretation:

For all ProMar 200 Zero VOC formulations, the raw materials were responsible for the largest environmental impact across all impact categories. Specifically, the pigments and binders were the most impactful raw materials. Manufacturing, packaging, use, and disposal were only responsible for a small percent of overall impact. Transportation impacts were significant for several impact categories, but still much smaller than those of the raw materials.

Since the raw materials were responsible for the largest chunk of the impact, product performance and durability were especially important. Within the ProMar 200 Zero VOC formulas, there was a range of as little as 1 kg of coating being needed to satisfy the functional unit to as much as 3 kg of coating. This means that over 3 times as much material was needed when using the latter formula.

Oftentimes there was a significant difference between the amount of coating needed depending on if the market-based lifetime was used or the technical design life. Generally speaking, the longer a coating lasts, the better its environmental performance will be. Ultimately, the end-user should decide which lifetime is more appropriate for their decision-making.

Study Completeness:

Completeness estimates are somewhat subjective as it is impossible for any LCA or inventory to be 100% complete. However, based on expert judgment, it is believed that given the overall data quality that the study is at least 95% complete. As such, at least 95% of system mass, energy, and environmental relevance were covered.

Uncertainty:

Because a large number of data sets are linked together in the LCA models, it is unknown how many of the data sets have goals that are dissimilar to this LCA. As such, it is difficult to estimate overall uncertainty of the LCA models. However, primary source data was used whenever possible and the most appropriate secondary data sources were used throughout the models. The thinkstep and ecoinvent databases are widely accepted by the LCA community and CEPE's LCI Database is based off thinkstep and ecoinvent data, just optimized/corrected for coating manufacturing processes.

Since the reference PCR stipulated the majority of the crucial LCA assumptions, Sherwin-Williams is comfortable with the methodology of the LCA and feel they reflect best-practices.

Limitations:

LCA is not a perfect tool for comparisons and impact values are constantly changing due to shifts in the grid mix, transportation, fuels, etc. Because of this, care should be taken when applying or interpreting these results. This being said, the relative impacts between products should be more reliable and less sensitive versus the specific impact category and metric values.

As stated in the LCA report, there were cases where analogue chemicals had to be used in the LCA models. This occurred when no LCI data was available for an intermediate chemical/material. This was typically limited to additives representing a very small amount of the overall formula (less than a percent), but still may impact the results. Likewise, there were cases where data had to be used from a different region or technology. These instances were uncommon and noted in the Data Quality section of the report and were not expected to have a serious effect on the results, but still may limit the study.

Emissions to Water, Soil, and to Indoor Air:

The ProMar 200 Zero VOC formulas included within this LCA are considered no-VOC and are GREENGUARD certified. GREENGUARD certificates are available at www.greenguard.org or at the link below.

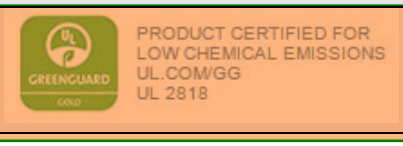
GREENGUARD Product Certificates

VOC determination was done using the federally accepted methods outlined by the EPA in the Federal Register. Additional information on VOCs and GREENGUARD certification can be found on the environmental data sheets for the specific ProMar 200 Zero VOC formula on www.sherwin-williams.com.

Critical Review:

Since the goal of the LCA was to generate an EPD, it was submitted for review by NSF Certification LLC. NSF commissioned Mr. Jack Geibig of EcoForm to conduct the formal review of the LCA report.

Additional Environmental Information:

Environmental Certifications	
GREENGUARD	

VOC Content	
0 g/L	Determined by EPA VOC Regulatory Calculation

Preferred End-of Life Options for ProMar 200 Zero VOC:

Please visit www.paintcare.org/ for information about disposing leftover latex paint. If possible, unused paint should be taken to an appropriate recycling/take-back center. Additional information can also be found on the Sherwin-Williams website at: www.sherwin-williams.com/homeowners/ask-sherwin-williams/painting/interior-painting-how-tos/interior-cleaning-up/.

References:

ASTM International, West Conshohocken, PA, 2014, www.astm.org.

American Coating Association Product Category Rule for Architectural Coatings. Available at http://standards.nsf.org/apps/group_public/download.php/28098/ACA%20PCR%20%2006-17-15%20-%20Final.pdf. Published June, 2015.

EPA VOC Calculation Rules. http://www3.epa.gov/ttn/atw/183e/aim/fr1191.pdf

ISO 14025:2006 *Environmental labels and declarations – Type III environmental declarations – Principles and procedures.*

ISO 14040:2006 *Environmental management - Life cycle assessment – Principles and framework.*

ISO 14044:2006 *Environmental management - Life cycle assessment – Requirements and guidelines.*

ISO 21930:2007 *Sustainability in building construction – Environmental declaration of building products.*

PaintCare - http://www.paintcare.org/

Tool for the Reduction and Assessment of Chemical and Other Environmental Impacts (TRACI) TRACI version 2.1. The Environmental Protection Agency. August 2012.

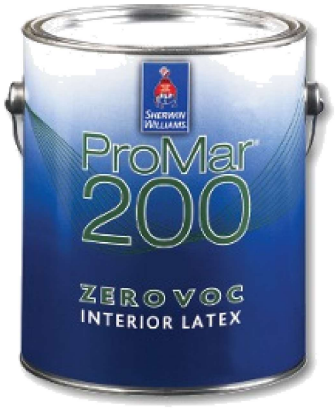
Sherwin-Williams Website. http://www.sherwin-williams.com.

Product Lens

a materials health assessment

COMPANY AND PRODUCT INFO

Issued to	**Sherwin-Williams**
For the Products	**ProMar 200 Zero VOC– B30 Series, B24 Series, B31 Series, B20 Series, B41 Series, B21 Series, B28 Series** **Assessment is limited to base formulas and does not include tint.*
Description	Professional painters have it all with ProMar® 200 Zero VOC Interior Latex Paint. A complete professional line that not only has zero VOCs, but is also available in six sheens, every color and a primer. All while delivering maximum productivity with exceptional durability and touch up.
Certification Period	July 1, 2020- October 31, 2023
Assessor	MBDC



Qualifications

LEED BPDO Credit: Material Ingredients Option 1 ☑
Qualifies for as 1 product

LEED BPDO Credit: Material Ingredients Option 2 ☐
Qualifies for 100% of cost

Other Achievements

GREENGUARD GOLD

NSF Certified Environmental Product Declaration www.nsf.org

MATERIALS / INGREDIENTS INFORMATION

Disclosure Level: 100 ppm ☐ 1000 ppm ☑

The following table represents the top 100% of the material ingredient disclosure and ratings. For the full ingredient disclosure information, please see the table on the reverse side.

Materials	Result			
	Supply Chain/ MFG	Install	Use	End of Use
Water				
Primary Resin				
Titanium Dioxide	I			
Calcium Carbonate				
Other Resins	D			
Extender Pigments				
Coalescent				
Other Additives	I			
Thickener				
pH Modifier				

Go to https://spot.ul.com/ the full, detailed materials ingredient list

Exposure Indicator

D = Dermal, Skin
I = Inhalation, air
O = Oral, mouth

*No Indicator means no potential exposure scenario identified

Color Ratings

	Low or mild hazard identified and/or potential exposure
	Moderate hazard identified and/or potential exposure
	Problematic concern found. The combination of the hazard and potential exposure leads to some caution for some uses and/or applications.
	Cannot be fully assessed due to either lack of complete formulation, or lack of toxicological information for one or more ingredients.
	Highly problematic material containing one or more chemicals classified as CMR and having a plausible route of exposure.

Sherwin-Williams

<www.sherwin-williams.com> <douglas.p.mazeffa@sherwin.com> <1-(800) 474-3794>

The below table represents the full disclosure of Sherwin Williams Product Lens 102.1 to 1000 ppm

CERTIFIED

PRODUCT LENS MATERIALS TRANSPARENCY AND DISCLOSURE. VIEW SPECIFIC INGREDIENTS AND EVALUATIONS:

UL.COM/PL

Product Lens

a materials health assessment

Material	CAS Number	Role	%	MFG	Install	Use	End of Use	Comments
Water	7732-18-5	Solvent	35%-65%					
Primary Resin	Proprietary	Resin/Polymer	10%-20%					One monomer is carcinogenic, however manufacturer has strict limits on residual levels of monomer so this is acceptable for use in all product phases.
Titanium Dioxide	13463-67-7	Pigment	0%-20%	I				Inhalation risk is mitigated duirng manufacturing with use of proper PPE.
Calcium Carbonate	1317-65-3	Extender	0%-25%					
Other Resins	Proprietary	Resin/Polymer	0%-10%	D				Monomers are strong skin sensitizers. Manufacturer has guaranteed proper PPE to protect workers from skin contact. Includes a material that is carcinogenic and demonstrates endocrine disruption potential (especially the dimers and trimers). Manufacturer has strict requirements for low residual monomer so cured resin will have low risk in use and end of use but still a concern in supplychain/manufacturing.
Extender Pigments	Proprietary	Extender Pigments	0%-5%					Manufacturer has provided evidence of no heavy metal contamination, and has guaranteed proper PPE and other technologies in place to limit worker exposure. Proper worker PPE mitigates inhalation risk during manufacture.
Coalescent	Proprietary	Coalescent	0%-2%					
Other Additives	Proprietary	Other Additives	0%-5%	I				Substances that are moderately hazardous to aquatic systems so during manufacture and installation care should be taken to minimize direct exposure to natural environment/bodies of water. Substance has been severely hydrotreated so is acceptable for use in all product phases. For all other materials, proper worker PPE mitigates inhalation risk during manufacturing.
Thickener	Proprietary	Thickener	0%-1%					
pH Modifier	Proprietary	pH Modifier	0%-1%					

	Low or mild hazard identified and/or potential exposure
	Moderate hazard identified and/or potential exposure
	Problematic concern found. The combination of the hazard and potential exposure leads to some caution for some uses and/or applications.
	Cannot be fully assessed due to either lack of complete formulation, or lack of toxicological information for one or more ingredients.
	Highly problematic material containing one or more chemicals classified as CMR and having a plausible route of exposure.

CERTIFICATE
OF COMPLIANCE

GREENGUARD
PRODUCT CERTIFIED FOR LOW CHEMICAL EMISSIONS
UL.COM/GG
UL 2818
GOLD

Sherwin-Williams Company

ProMar® 200 Zero VOC Interior Latex Flat, B30W12650 Series

84213-420
Certificate Number

20 Oct 2016 - 11 Jul 2024
Certificate Period

Certified
Status

UL 2818 - 2022 Gold Standard for Chemical Emissions for Building Materials, Finishes and Furnishings

Wall finishes are determined compliant in accordance with California Department of Public Health (CDPH) Standard Method V1.2-2017 using a Classroom Environment with an air change of 0.82 hr^{-1} and a loading of 94.60 m^2. ; and Wall finishes are determined compliant in accordance with California Department of Public Health (CDPH) Standard Method V1.2-2017 using an Office Environment with an air change of 0.68 hr^{-1} and a loading of 33.40 m^2.

Product tested in accordance with UL 2821 test method to show compliance to emission limits on UL 2818. Section 7.1 and 7.2.

GREENGUARD Gold Certification Criteria for Building Products and Interior Finishes

Criteria	CAS Number	Maximum Allowable Predicted Concentration	Units
TVOC (A)	-	0.22	mg/m³
Formaldehyde	50-00-0	9 (7.3 ppb)	µg/m³
Total Aldehydes (B)	-	0.043	ppm
4-Phenylcyclohexene	4994-16-5	6.5	µg/m³
Particle Matter less than 10 µm (C)	-	20	µg/m³
1-Methyl-2-pyrrolidinone (D)	872-50-4	160	µg/m³
Individual VOCs (E)	-	1/2 CREL or 1/100th TLV	-

(A) Defined to be the total response of measured VOCs falling within the C_6 – C_{16} range, with responses calibrated to a toluene surrogate. Maximum allowable predicted TVOC concentrations for GREENGUARD Gold (0.22 mg/m³) fall in the range of 0.5 mg/m³ or less, as specified in CDPH Standard Method v1.2.

(B) The sum of all measured normal aldehydes from formaldehyde through nonanal, plus benzaldehyde, individually calibrated to a compound specific standard. Heptanal through nonanal are measured via TD/GC/MS analysis and the remaining aldehydes are measured using HPLC/UV analysis.

(C) Particle emission requirement only applicable to HVAC Duct Products with exposed surface area in air streams (a forced air test with specific test method) and for wood finishing (sanding) systems.

(D) Based on the CA Prop 65 Maximum Allowable Dose Level for inhalation of 3,200 µg/day and an inhalation rate of 20 m³/day

(E) Allowable levels for chemicals not listed are derived from the lower of 1/2 the California Office of Environmental Health Hazard Assessment (OEHHA) Chronic Reference Exposure Level (CREL) as required per the CDPH/EHLB/Standard Method v1.2 and BIFMA level credit 7.6.2 and 1/100th of the Threshold Limit Value (TLV) industrial work place standard (Reference: American Conference of Government Industrial Hygienists, 6500 Glenway, Building D-7, and Cincinnati, OH 45211-4438).

ProMar® 200 Zero V.O.C.

Interior Latex Flat

B30-Series

CHARACTERISTICS

ProMar® 200 Zero V.O.C. Interior Latex Flat is a durable, professional quality, interior vinyl acrylic finish for use on walls and ceilings of primed plaster, wallboard, wood, masonry, and primed metal.

Color: Most Colors
To optimize hide and color development, always use the recommended P-Shade primer.

Coverage: 350-400 sq. ft. per gallon @ 4 mils wet 1.4 mils dry

Drying Time, @ 77° F, 50% RH:

Touch:	1 Hour
Recoat:	4 Hours

Drying and recoat times are temperature, humidity, and film thickness dependent.

Finish: 1.5-3.5 units @ 85°

Tinting with CCE only:

Base:	oz. per gallon:	Strength:
High Ref White	0-6	SherColor
Extra White	0-7	SherColor
Deep Base	4-12	SherColor
Ultradeep Base	10-12	SherColor
Real Red	0-12	SherColor
Bright Yellow	0-12	SherColor
Dover White		**Do Not Tint**

Extra White B30W12651
(may vary by color)

V.O.C. (less exempt solvents):
Less than 50 grams per litre; 0.42 lbs. per gallon
As per 40 CFR 59.406

Volume Solids:	34 ±2%
Weight Solids:	52 ±2%
Weight per Gallon:	11.45 lbs
Flash Point:	N.A.
Vehicle Type:	Vinyl Acrylic
Shelf Life:	36 months, unopened
WVP Perms (US):	70.83 grains/(hr ft2 in Hg)

Anti-microbial
This product contains agents which inhibit the growth of mold and mildew on the surface of this paint film.

COMPLIANCE

As of 06/29/2023, Complies with:

OTC	Yes
OTC Phase II	Yes
S.C.A.Q.M.D.	Yes
CARB	Yes
CARB SCM 2007	Yes
CARB SCM 2020	Yes
Canada	Yes
LEED® v4 & v4.1 Emissions	Yes
LEED® v4 & v4.1 V.O.C.	Yes
EPD-NSF® Certified	Yes
MIR-Manufacturer Inventory	Yes
MPI®	Yes

APPLICATION

Apply at temperatures above 50°F
No reduction needed.

Brush:
Use a nylon-polyester brush.

Roller:
Use a 3/8 to 3/4 inch nap synthetic cover.

For specific brushes and rollers, please refer to our Brush and Roller Guide on Sherwin-williams.com

Spray - Airless:

Pressure	2000 p.s.i.
Tip	.017-.021 inch

APPLICATION TIPS

Make sure product is completely agitated (mechanically or manually) before use.

Priming and application of two coats at the recommended film thickness can help where hiding of a previous coating or application to new drywall is a factor.

Using the same method of application and batch to touch up with as that originally used will help improve touch up.

When original application was by spray, preconditioning of touch up paint by running it through the spray tip will help touch up appearance.

SPECIFICATIONS

Block:
1 coat ConFlex Block Filler*
2 coats ProMar 200 Zero V.O.C. Interior Latex

Drywall:
1 coat ProMar 200 Zero V.O.C. Latex Primer
2 coats ProMar 200 Zero V.O.C. Interior Latex

Masonry:
1 coat Loxon Concrete & Masonry Primer*
2 coats ProMar 200 Zero V.O.C. Interior Latex

Plaster:
1 coat Loxon Concrete & Masonry Primer*
2 coats ProMar 200 Zero V.O.C. Interior Latex

Wood:
1 coat Premium Wall & Wood Primer*
2 coats ProMar 200 Zero V.O.C. Interior Latex

*These primers contain less than 50 grams per litre V.O.C.

Other primers may be appropriate.

When repainting involves a drastic color change, a coat of primer will improve the hiding performance of the topcoat color.

continued on back

ProMar® 200 Zero V.O.C.
Interior Latex Flat

SURFACE PREPARATION

WARNING! If you scrape, sand or remove old paint, you may release lead dust. LEAD IS TOXIC. EXPOSURE TO LEAD DUST CAN CAUSE SERIOUS ILLNESS, SUCH AS BRAIN DAMAGE, ESPECIALLY IN CHILDREN. PREGNANT WOMEN SHOULD ALSO AVOID EXPOSURE. Wear a **NIOSH**-approved respirator to control lead exposure. Clean up carefully with a **HEPA** vacuum and a wet mop. Before you start, find out how to protect yourself and your family by contacting the National Lead Information Hotline at **1-800-424-LEAD** or log on to **www.epa.gov/lead.**

Remove all surface contamination by washing with an appropriate cleaner, rinse thoroughly and allow to dry. Existing peeled or checked paint should be scraped and sanded to a sound surface. Glossy surfaces should be sanded dull. Stains from water, smoke, ink, pencil, grease, etc. should be sealed with the appropriate primer-sealer. Recognize that any surface preparation short of total removal of the old coating may compromise the service length of the system.

Caulking:
Gaps between walls, ceiling, crown moldings, and other interior trim can be filled with the appropriate caulk after priming the surface.

Drywall:
Fill cracks and holes with patching paste-spackle and sand smooth. Joint compounds must be cured and sanded smooth. Remove all sanding dust.

Masonry, Concrete, Cement, Block:
All new surfaces must be cured according to the supplier's recommendations – usually about 30 days. Remove all form release and curing agents. Rough surfaces can be filled to provide a smooth surface. If painting cannot wait 30 days, allow the surface to cure 7 days and prime the surface with Loxon Concrete & Masonry Primer.

SURFACE PREPARATION

Mildew:
Prior to attempting to remove mildew, it is always recommended to test any cleaner on a small, inconspicuous area prior to use. Bleach and bleaching type cleaners may damage or discolor existing paint films. Bleach alternative cleaning solutions may be advised. Mildew may be removed before painting by washing with a solution of 1 part liquid bleach and 3 parts clean water. Apply the solution and scrub the mildewed area. Allow the solution to remain on the surface for 10 minutes. Rinse thoroughly with clean water and allow the surface to dry before painting. Wear protective eyewear, waterproof gloves, and protective clothing. Quickly wash off any of the mixture that comes in contact with your skin. Do not add detergents or ammonia to the bleach-water solution.

Plaster:
Bare plaster must be cured and hard. Textured, soft, porous, or powdery plaster should be treated with a solution of 1 pint household vinegar to 1 gallon of clean water. Repeat until the surface is hard, rinse with clear water and allow to dry.

Wood:
Sand any exposed wood to a fresh surface. Patch all holes and imperfections with a wood filler or putty and sand smooth.

CAUTIONS

For interior use only.
Protect from freezing.
Non-Photochemically reactive.

Before using, carefully read **CAUTIONS on label**.

Use only with adequate ventilation. To avoid overexposure, open windows and doors or use other means to ensure fresh air entry during application and drying. If you experience eye watering, headaches, or dizziness, increase fresh air, or wear respiratory protection (**NIOSH** approved) or leave the area. Avoid contact with eyes and skin. Wash hands after using. Keep container closed when not in use. Do not transfer contents to other containers for storage. **FIRST AID:** In case of eye contact, flush thoroughly with large amounts of water. Get medical attention if irritation persists. If swallowed, call Poison Control Center, hospital emergency room, or physician immediately. **WARNING:** This product contains chemicals known to the State of California to cause cancer and birth defects or other reproductive harm. **DO NOT TAKE INTERNALLY. KEEP OUT OF THE REACH OF CHILDREN.**

HOTW	06/29/2023	B30W12650	15 00
HOTW	06/29/2023	B30W12651	26 00
HOTW	06/29/2023	B30W02653	32 00
HOTW	06/29/2023	B30T02654	34 00
HOTW	06/29/2023	B30R12658	06 00
HOTW	06/29/2023	B30Y02657	21 00
HOTW	06/29/2023	B30W02606	20 00

FRC, SP

CLEANUP INFORMATION

Clean spills, spatters, hands and tools immediately after use with soap and warm clean water. After cleaning, flush spray equipment with compliant cleanup solvent to prevent rusting of the equipment. Follow manufacturer's safety recommendations when using solvents.

Flame Spread Rating Information

In answer to your request for flame spread rating information regarding certain of our coatings products, most conventional paint systems, when applied at the recommended film thickness, will develop a "Class A" (0-25) flame spread rating over non-combustible, previously uncoated "Class A" rated substrates.

The chart below presents the results of flame spread tunnel testing on certain coatings systems. The tests were conducted by an independent laboratory in accordance with the provisions of ASTM E84. "Standard Test Method for Surface Burning Characteristics of Building Materials." This test method is similar to the test method specified in ANSI No.2.2, NFPA No. 255, UL No.723, UBC No. 421 and ASTM E84-75.

The flame spread rating for cured coatings not tested may be estimated based on the Flammability of Paint Study conducted by the National Paint and Coatings Association (NPCA) at Southwest Research Institute San Antonio, Texas Project 3-3774-141. This study evaluated paints representative of those sold in the modern consumer market. In summary, the study concluded: "conventional pigmented paints of all types made little change in the flame spread ratings of the uncoated substrates and made insignificant changes in the fuel and smoke factors. We believe this study provides substantial evidence that conventional paints and coatings do not increase the flame spread of either non-flammable or flammable substrates upon which they are applied. It also indicates that any fuel contribution or smoke density increase is insignificant when compared with the contribution of the substrate itself."* Therefore, most conventional paint systems, when applied at the recommended film thickness and cured, will develop a "Class A" flame spread rating over a non-combustible previously uncoated substrate.

The flame spread and smoke development indexes are based on The National Fire Protection Association NFPA 101 Life Safety Code. Those ratings for interior walls and ceilings are:

Class A: Flame Spread Index = 0 – 25	Smoke Developed Index = 0 – 450
Class B: Flame Spread Index = 26 – 75	Smoke Developed Index = 0 – 450
Class C: Flame Spread Index = 76 – 200	Smoke Developed Index = 0 – 450

SUBSTRATE STANDARDS

1/4 inch Inorganic Reinforced Cement Board: Flame Spread Index = 0	Smoke Developed Index = 0
GRC Board: Flame Spread Index = 0	Smoke Developed Index = 0
Red Oak Flooring: Flame Spread Index = 100	Smoke Developed Index = 100
23/32 inch Plywood Sheathing: Flame Spread Index = 125	Smoke Developed Index = 75

Test are rounded to the nearest multiple of 5.

SHERWIN-WILLIAMS TEST DATA:	FLAME SPREAD	SMOKE DEVELOPMENT	FLAME SPREAD CLASS	SUBSTRATE INDEX
ProMar® 400 Zero VOC (Low Sheen-vinyl acrylic)	5	0	Class A	.625" Type X Gypsum
ProMar® 400 Zero VOC (Semi-Gloss-vinyl acrylic)	0	0	Class A	.625" Type X Gypsum
ProMar® 400 Zero VOC (Flat-vinyl acrylic)	5	5	Class A	.625" Type X Gypsum
ProMar® 400 Zero VOC (Primer-vinyl acrylic)	5	0	Class A	.625" Type X Gypsum
ProMar® 400 Zero VOC (Eg-Shel-vinyl acrylic)	10	0	Class A	.625" Type X Gypsum
Harmony® (Flat 100% Acrylic)	10	0	Class A	.625" Type X Gypsum
Harmony® (Eg-Shel 100% Acrylic)	15	0	Class A	.625" Type X Gypsum
ProMar® 200 Zero VOC (Flat-vinyl acrylic)	10	0	Class A	.625" Type X Gypsum
ProMar® 200 Zero VOC (Primer-vinyl acrylic)	5	0	Class A	.625" Type X Gypsum
ProMar® 200 Zero VOC (Eg-Shel-vinyl acrylic)	10	0	Class A	.625" Type X Gypsum
ProMar® 200 Zero VOC (Low Sheen-vinyl acrylic)	10	0	Class A	.625" Type X Gypsum
ProMar® 200 Zero VOC (Semi-Gloss-vinyl acrylic)	5	0	Class A	.625" Type X Gypsum
PrepRite® ProBlock® Latex Primer (acrylic primer)	10	0	Class A	.625" Type X Gypsum

As a general rule, the substrate itself may contribute significantly to the overall flame spread rating of a system comprised of a coating applied over the substrate. As a guide, non-combustible substrates such as cement asbestos board and plaster have a flame spread rating of zero and, when coated, do not contribute significantly to the flame spread rating of the system. One study indicates that a system comprised of coated conventional drywall may yield a flame spread rating within Flame Spread Class A, but slightly higher than that of a system comprised of a non-combustible substrate.* Conventional paint systems applied over these types of substrates do not contribute significantly to the overall flame spread rating of the system. On combustible substrates that burn readily, such as a wood surface that has not been treated to resist burning, standard coatings do nothing to prevent the substrate from burning. That is, conventional paint systems do not significantly reduce the flame spread rating of a combustible substrate. However, special fire retardant or intumescent coatings can be applied to readily combustible substrates such as wood to reduce the overall flame spread rating of the system.

References:

The National Fire Protection Association NFPA 101 Life Safety Code
ASTM E84. "Standard Test Method for Surface Burning Characteristics of Building Materials"
* National Paint and Coatings Association, Inc. 1500 Rhodes Island Ave, N.W. Washington D.C. 20005. Flammability of Paint Study, Project 3-3774-141 Southwest Research Institute San Antonio, Texas.