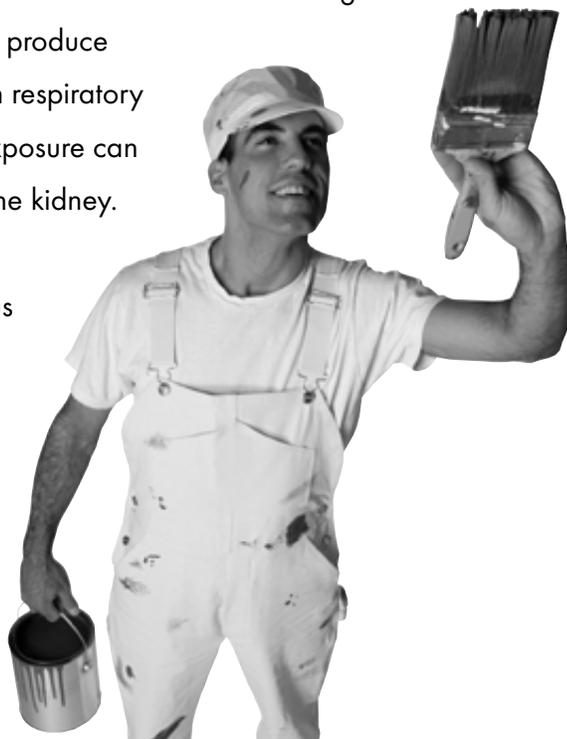


## ARCHITECTURAL PAINTS

-  Over 5% of California's air pollution can be traced to the gases emitted from paint and finishing products!
-  Latex paints work as well or better than alkyd paints for both indoor and outdoor applications.
-  Every finish and most colors are available in environmentally preferable, low VOC paints.
-  In a recent study of three lines of paint, Green Seal found that environmentally responsible paint averaged \$1.76 a gallon less than other paints from the same manufacturers.

**A**rchitectural coatings are a fundamental component of the decoration and maintenance of homes and buildings worldwide. However, many of the paints used today contain and emit chemicals which are damaging to the air, water and soil. All too often, disposal involves dumping the paints into drains, wreaking havoc on the microbial system which breaks down sewage. Unfortunately paint can also produce harmful effects on the human respiratory system and with repeated exposure can damage both the liver and the kidney. In fact, by law waste paints must be treated as hazardous waste! This issue of the *Choose Green Report* identifies simple guidelines to aid you in selecting and disposing of paints to minimize their impacts on both the environment and you.



## The Stink About Paint

One of the growing concerns about architectural coatings is their excessive levels of volatile organic compounds (VOCs). The interaction of sunlight with emitted VOCs can form ground level ozone, one of the principal components of photochemical smog. Overall, consumer products contribute to about 6 million tons of annual VOC emissions.

States such as California, New York and New Jersey have imposed VOC emission regulations that prohibit the production and sale of paints which exceed a maximum VOC level of 250 grams/liter. Most latex paints (water based) have levels less than the regulated amount, but many alkyd paints (oil or solvent based) have been restricted. These state regulations are in the process of being implemented nationwide as part of the Clean Air Act of 1990.

Studies have shown that ground level ozone is harmful to both human health and agricultural crops. Ozone is a major

contributor to lung tissue damage in adults and children. The American Lung Association has reported that at room temperature, the VOCs emitted from paints can cause eye, lung and skin irritation as well as headaches, nausea, respiratory problems, muscle weakness and liver and kidney damage. In addition, excessive levels of ozone are responsible for billions of dollars of crop yield loss each year in the United States alone.

Concentrations of VOCs are proven to be higher indoors than outdoors, and thus more hazardous. A study by the EPA consistently found indoor levels up to ten times higher than outdoors. In fact, the EPA has found that after a fresh paint application the VOC levels indoors were up to 1000 times outdoor levels! For this reason, water based paints with low or no VOC levels are highly recommended for people who suffer from allergies or chemical sensitivity.

## A Look Inside the Can

Latex paints have an impressive record. Not only do these paints perform as well as alkyd paints, in some cases they perform even better! For example, latex paints have a lower occurrence of mildew

growth in high moisture rooms, such as bathrooms. Latex paint is actually better as an exterior paint than an alkyd paint since it is more breathable, has better color and mildew resistance and expands and contracts with the wood easily.

Not only are latex paints easier to apply, but because these paints are water based they are also easily cleaned off painting equipment with running water. Alkyd paints must be cleaned up with another solvent, increasing exposure to harmful VOCs and dangerous chemicals.

However, some latex paints have some harmful ingredients. Carcinogenic and other harmful ingredients are required by law to be listed on the side of the can. There is no law, however, which mandates the printing of the exact VOC level on the can. If you use a paint that does not have the specific VOC level listed on the container,

*Latex paint is is more breathable, has better color and mildew resistance and expands and contracts with the wood easily than an alkyd paint.*

The **Choose Green Report** is published for Green Seal Environmental Partners. To become an Environmental Partner, or to receive a copy of this report, contact Green Seal at (202) 588-8400 x 21 or [green Seal@green Seal.org](mailto:green Seal@green Seal.org).

Green Seal President and CEO, *Arthur B. Weissman*

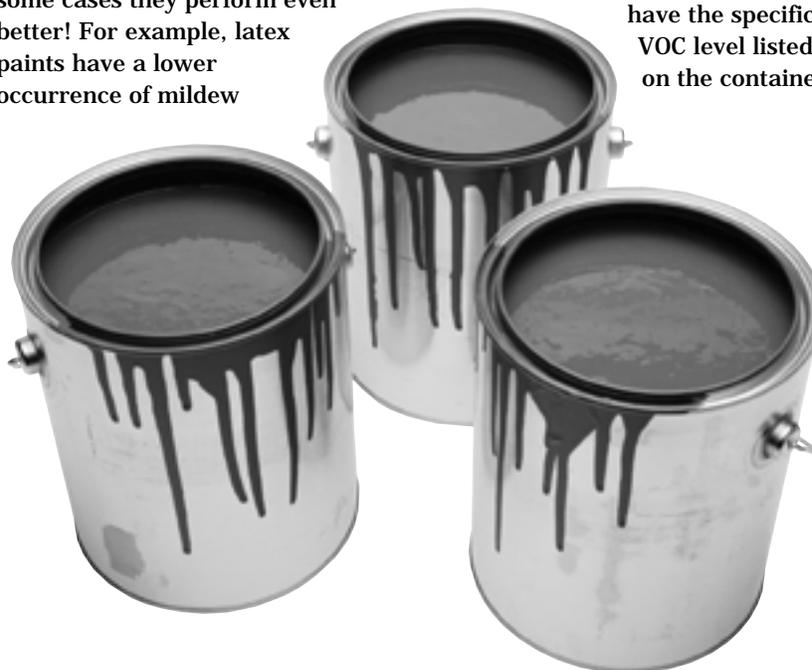
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we suggest calling the information phone line of the paint company and requesting the specific VOC value from the company.

As a rule of thumb, the stronger the smell of paint fumes, or the higher the gloss level, the higher the VOC content and therefore the more dangerous the exposure. By buying paints with low VOC levels, often marketed as “odor free paint”, you are putting yourself and those around you at less risk and helping to protect the air we all breath.

*By buying paints with low VOC levels, you are putting yourself and those around you at less risk and helping to protect the air we all breath.*

Finally, one of the most important characteristics of a paint is its durability. A paint that has low VOCs but must be reapplied frequently is an environmental loss. A Green Seal certified paint must be tested for scrubability, hiding power and washability. Our standard states the following:

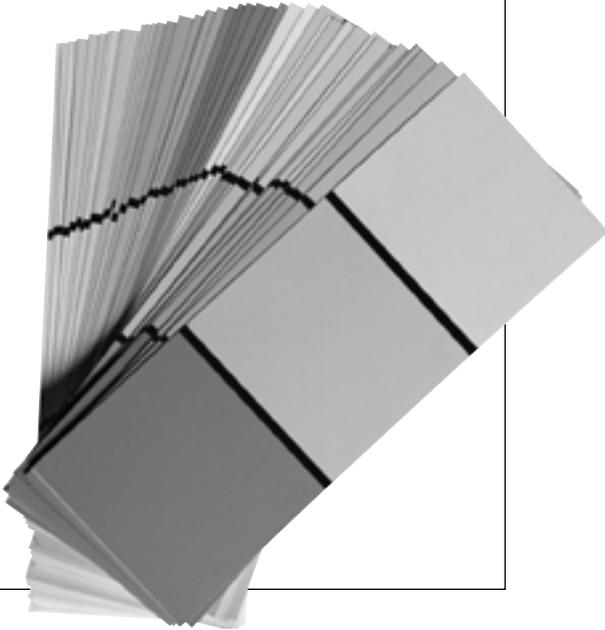


■ **Scrubability:** a paint must endure at least 100 cycles of scrubbing before failure.

■ **Hiding Power:** a paint must cover a surface at a minimum of 0.95 contrast ratio at 400 ft<sup>2</sup>/gallon.

### WHAT MAKES A GREEN PAINT

- **Buy Latex Paint.** Since the base solvent in these paints is water there are fewer harmful chemicals to worry about. There is also no need for dangerous solvents for thinning or cleanup.
- **Low VOCs.** Many paints list their VOC level in grams per liter (g/l) or pounds per gallon (lbs/gal). Please see the box below for the recommended VOC levels for various types of paints.
- **No Harmful Ingredients.** A paint formulated without any harmful ingredients listed in chart 1 below.
- **No Heavy Metals.** Chart 2 lists the specific metals that Green Seal recommends avoiding.
- **A paint that suits your needs.**



■ **Washability:** a paint must allow easy removal of common stains at a minimum rating of five for flat paints and seven for non-flat paints.

This information is often difficult to find or quantify; the paints listed in this *Choose Green Report* have not undergone any quantification or verification of these qualities by Green Seal. The most important thing to remember

is to choose a paint which suits your needs. If you are running a business which requires the paints to be washed often, then choose one with high durability. If you need a paint to cover a previous layer, look for one which has a high hiding power. When purchasing a paint ask your representative about these characteristics and how they might apply to you.

*continued on page 4*

**Looking Inside**  
*continued from page 3*

The chemicals in the Harmful Ingredients and Heavy Metals boxes are listed because of the high health risks associated with both short and long term exposures. For example, ethylbenzene has been shown to produce eye and throat irritation for low level exposure in humans, as well as decreased movement ability and dizziness with higher level exposures. Several of the ingredients listed produce these effects as well as contact burns, upper respiratory tract irritation, nausea, headaches, and dermatitis among others.

Other chemicals are listed because of their very severe health effects. Both lead and mercury have very harsh effects on the human body. Both are associated with Central Nervous System depression as well as damage to the liver and kidneys. Lead is especially known for its highly toxic effects on children, while mercury has variable effects on the brain including personality changes,

*Lead is especially known for its highly toxic effects on children.*



CHART 1

<b>HARMFUL INGREDIENTS</b>	
methylene chloride	di-n-butyl phthalate
1,1,1-trichloroethane	di-n-octyl phthalate
benzene	diethyl phthalate
toluene (methyl benzene)	dimethyl phthalate
ethylbenzene	isophorone
vinyl chloride	formaldehyde
naphthalene	methyl ethyl ketone
1,2-dichlorobenzene	methyl isobutyl ketone
Di(2-ethylhexyl) phthalate	acrolein
butyl benzyl phthalate	acrylonitrile

tremors, vision or hearing problems, and difficulties with memory. Even more frightening are the suspected or known effects of some of the other chemicals, such as benzene and di-2-ethylhexyl phthalate. These chemicals and others have either shown or are suspected to produce health effects such as carcinogenicity, fetotoxicity, bioaccumulation, teratogenicity and decreased fertility.

CHART 2

<b>HEAVY METALS</b>
antimony
cadmium
hexavalent chromium
lead
mercury

**RECOMMENDED VOC LEVELS**

Green Seal's recommended VOC concentrations are based on weight per unit volume of product minus water. These levels are based on finish type and application.

**Interior**

Metric  
 150 g/l for non-flat  
 50 g/l for flat

English  
 1.25 lbs/gal for non-flat  
 0.42 lbs/gal for flat

**Exterior**

Metric  
 200 g/l for non-flat  
 100 g/l for flat

English  
 1.66 lbs/gal for non-flat  
 0.83 lbs/gal for flat

## Disposal

One problem with paint is that there is usually some left over. The main concern is to prevent it from being dumped down a drain. The chemicals present in paints can be harmful to both our soil and water supply.

Green Seal has gathered some environmental and economical methods of disposing of excess paints. Simply put, the best way to dispose of your paint is to use it up! By taking measurements around doors and windows before starting the project, you can determine more precisely the amount of paint needed. The average gallon of paint covers approximately 400 ft<sup>2</sup> of wall space.

There are several ways to reuse or recycle these paints. Many cities have paint recycling programs that reuse waste paints for public buildings. Seattle recently started a program that collects all left over latex paints and mixes them together to make a color known as "Seattle Beige". This paint is then sold to local schools and hospitals at a discount. Another alternative is a paint exchange program like the one in Santa Monica, California. This program allows members of the community to pick up or trade old paints with their neighbors for free.

A program in the Baltimore area is run by Loading Dock Incorporated, described by Leslie Kirkland, their Executive Director, as "the Good Will of building materials". Landfills throughout Maryland and Virginia coordinate collection of residential paint waste and then deliver it to Loading Dock. Other shipments also are delivered from paint manufacturers. The paints are then mixed by type and color to fill two gallon buckets and sold at discount prices to various clients. Other communities across the

country are sponsoring hazardous waste collection days once or twice a year. To check if your town has a similar program, call your local landfill

If programs like these are not available in your area, there are still other options. Latex paints are made to last for several years if properly resealed in their cans, so the excess paints can be stored and used on other projects or for touching up. However, be certain that the cans are closed tightly, to



prevent the paint from drying up and emitting harmful VOCs into the atmosphere. An easy way to remember the color is to put a dot of paint on the lid so opening the

container is not necessary. If you find that you are accumulating many paint containers that have only small amounts still in them, mix the paints together to create a gray or beige color to use as a primer or base coat in the future. If you do mix paints together, make sure that you are not mixing latex with alkyd paints.

*continued on page 6*

## Recommended Architectural Paints

All of the architectural paints listed in these tables meet the Green Seal standard for VOC levels and prohibited ingredients.

### PRIMER PAINTS

MANUFACTURER	PRODUCT NAME	VOC LEVEL g/L
Benjamin Moore	Fresh Start® Exterior Primer	31
ICI Dulux Paints	Lifemaster 2000™ Interior Primer	0
PPG	Speedhide® Sealer	41
Sherwin Williams	PrepRite™ B28W300 Interior Primer	50
Sherwin Williams	HealthSpec® B11W44 Interior Primer	0
Sherwin Williams	PrepRite™200 B28W200 Interior Primer	26
Sherwin Williams	PrepRite™Anchor-Bond B51W50 Interior Primer	18
Sherwin Williams	Loxon® A24W300 Exterior Primer	130
Sherwin Williams	A-100® B42W41 Exterior Primer	123
United Paint Mfg.	Acrylex 300 Primer-Sealer	61
United Paint Mfg.	Adhere-It (WB) Primer-Sealer	44
United Paint Mfg.	Acrysheen Primer-Sealer	34
United Paint Mfg.	Canyontone® Water Base Primer-Sealer	39

G/l = grams per liter of product minus water  
VOC = Volatile Organic Compound

\* All VOC level information was provided by the manufacturers.

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## Recommended Architectural Paints

All of the architectural paints listed in these tables meet the Green Seal standard for VOC levels and prohibited ingredients.

### INTERIOR PAINTS

MANUFACTURER	PRODUCT NAME	VOC LEVEL g/L
Benjamin Moore	Pristine® Flat	26
Benjamin Moore	Pristine® Eggshell	23
Benjamin Moore	Pristine® Semi-Gloss	18
Duron	Genesis™ Flat	0
Duron	Genesis™ Semi-Gloss	0
Duron	Genesis™ Gloss	0
ICI Dulux Paints	Lifemaster™ 2000 Eggshell	0
ICI Dulux Paints	Lifemaster™ 2000 SemiGloss	0
ICI Dulux Paints	Lifemaster™ 2000 Flat	0
McCormick Paint	Interior Tempo High Gloss Acrylic Enamel	127
PPG	Speedhide® Wall Flat	19
PPG	Speedhide® Enamel Eggshell	25
PPG	Speedhide® Enamel Semi-gloss	14
Sherwin Williams	SuperPaint® A88 Series Semi-Gloss	147
Sherwin Williams	SuperPaint® A87 Series Satin	146
Sherwin Williams	Classic 99® A29 Series Satin	145
Sherwin Williams	Classic 99® A26 Series Semi-Gloss	123
Sherwin Williams	ProMar®200 B31W200 Series- Semi-Gloss	37
Sherwin Williams	ProMar®200 B20W200 Series Eg-Shel	66
Sherwin Williams	HealthSpec™ B5 Series Flat	0
Sherwin Williams	ProMar®200 B30W200 Series Flat	19
United Paint Mfg.	Aladintone Satin	41
United Paint Mfg.	Painters Choice Eggshell	46
United Paint Mfg.	Parade- Flat	12
United Paint Mfg.	Coverall Flat	14

G/l = grams per liter of product minus water

VOC = Volatile Organic Compound

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## Recommended Architectural Paints

All of the architectural paints listed in these tables meet the Green Seal standard for VOC levels and prohibited ingredients.

### EXTERIOR PAINTS

MANUFACTURER	PRODUCT NAME	VOC LEVEL g/L
Sherwin Williams	Elastomeric A5 Series Flat	55
Sherwin Williams	A-100® A6 Series Flat	57
Sherwin Williams	SuperPaint® A89 Series Satin	110
Sherwin Williams	SuperPaint® A84 Series Gloss	51
Sherwin Williams	SuperPaint® A85 Series High Gloss	118
Sherwin Williams	LowTemp 35™ B17 Series Satin	86
Sherwin Williams	A-100® A82 Series Satin	38
Sherwin Williams	A-100® A8 Series Gloss	132
United Paint Mfg.	Century 2000	83
United Paint Mfg.	AcryClad Semi-Gloss	80
United Paint Mfg.	AcryClad Satin	80
United Paint Mfg.	AcryClad Gloss	68
United Paint Mfg.	Aquacrylic Flat	5

G/l = grams per liter of product minus water

VOC = Volatile Organic Compound

\* All VOC level information was provided by the manufacturers.

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### **Disposal** *continued from page 5*

If you must throw away paint, be sure that it is securely sealed in the original can and picked up or delivered to a local hazardous waste disposal site. Cans that contain paints that are already completely dried up may be sent to regular sanitary landfills. Remember, if proper storage and disposal are not followed, much of the benefits of purchasing an environmentally preferable product are lost!

### MANUFACTURER CONTACT INFORMATION

Benjamin Moore .....	1-800-826-2623
Duron .....	1-800-723-8766
ICI Dulux Paints .....	1-800-984-5444
McCormick Paints .....	1-301-770-3235
PPG .....	1-888-774-1010
Sherwin Williams .....	1-216-566-2151
United Paint Mfg. Co. ....	1-800-541-4383



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## **IN THIS ISSUE**

- *Recommended Architectural Latex Paints*
- *Green Paint Criteria*
  - *Low VOC Paints*
  - *Prohibited Ingredients*
- *Disposal*

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## **WHO IS GREEN SEAL?**

*Green Seal's mission is to achieve significant environmental benefits by encouraging organizations and individuals to choose environmentally responsible products and services. We accomplish this goal in two key ways.*

*First, we set rigorous environmental standards for products and services and award a seal of approval to those meeting the standards. When consumers select products bearing the Green Seal, they know they are buying products that have a lessened impact on*

*the environment, without sacrificing performance.*

*Second, through our Green Seal Environmental Partners Program and the **Choose Green Report**, we help large and small institutions become environmentally sensitive shoppers. We provide detailed guidance — such as this report — on how organizations can protect the environment while saving money. Please*

*contact us to find out how to become a partner and receive our monthly newsletters.*

