

# Eco-friendly Paint

What does it take to make the claim



Photo: Jennifer I.

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Chairman of the Board  
Tinol Paints International Co. sal

# Why Do We Paint?

- **Protection**  
e.g. sealing, anti-carbonation
- **Decoration**  
e.g. colors, textures
- **Special Purposes**  
e.g. anti-slip floors, area marking
- **Cost Saving**  
e.g. cleaning, maintenance



# Why Buy Eco-Friendly Paint?

- Less harmful to the environment
- Less harmful to you and your family



Lebanese Ministry of Tourism



# What Makes a Paint Eco-Friendly?

Main Factors to Consider:

- Volatile Organic Compounds (VOCs)
- Restricted Materials
- Paint Performance
- Intended Use
- Raw Material Transportation



# Environmental Bodies

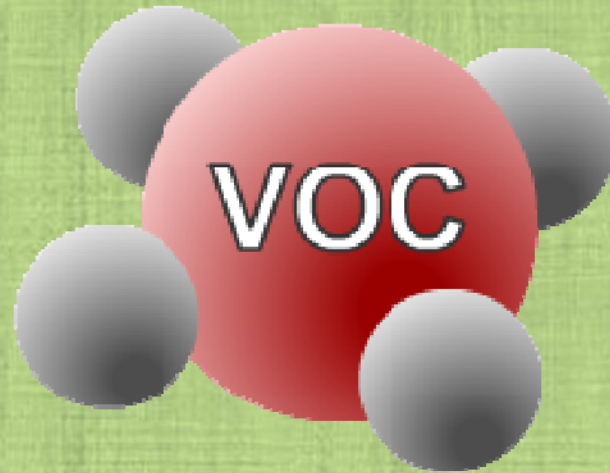


- No universally accepted definition of “eco-friendly” paints & coatings
- Several organizations have issued standards

*Examples:*

- *USGBC Leadership in Energy and Environmental Design (LEED)*
- **Green Seal**
- South Coast Air Quality Management District (**SCAQMD**)
- US Environmental Protection Agency (**US EPA**)
- Master Painters Institute Green Performance Standard (**MPI GPS**)
- **Greenguard**

# Volatile Organic Compounds (VOCs)



- VOCs are emitted as gases from certain solids or liquids such as cleaners and paints
- Concentrations of many VOCs are consistently higher indoors
- Exposure to high concentrations of VOCs can lead to health risks
- New technologies: High performance water-based & solvent-free paints with low VOC & odor

# Volatile Organic Compounds (VOCs)

## LEED v.3 (LEED 2009)

RATING SYSTEM  
**NC 2009**  
*New Construction*

CREDIT CATEGORY  
**IEQ**  
*Indoor Environmental Quality*

CREDIT  
**IEQc4.2**  
*Low-Emitting Materials—Paints and Coatings*

- Architectural paints, coatings and primers (Green Seal Standard GS-11)
  - VOC limits Flats: 50 g/L - Non-flats: 150 g/L
- Anti-corrosive and anti-rust paints (Green Seal Standard GC-03)
  - VOC limit: 250 g/L
- Clear wood finishes, floor coatings, stains, sealers, and shellacs  
(SCAQMD Rule 1113)
  - VOC limits: 100 g/L to 730 g/L, depending on type

# Restricted Materials

- VOC is not the only consideration
- American Conference of Industrial Hygienists (ACGIH) standard 0100Doc identifies 26 restricted materials including:
  - Lead
  - Mercury
  - Asbestos
  - Arsenic
  - Cadmium
  - ...





# Paint Performance

- Performance: Very important criterion for eco-friendliness

Longer lasting coating



Less frequent re-painting

**Durability**



Less environmental damage from paint production & distribution

Less frequent VOC emissions

## Intended Use

- Environmental organizations generally allow different VOC levels for different paint categories

e.g. LEED 50g/L up to 730 g/L

- Industrial maintenance coatings:

Mostly solvent-bearing

Alternatives: solvent-free and waterborne



## Raw Material Transportation

- Locally produced paint is more environmentally friendly  
Approximately 50% of weight of water-based paint is **water**, locally available

# Alkyd Paints & Alternatives

Alkyd (oil-based) less environmentally friendly than emulsion (water-based) paints

- Why people use alkyd enamel paints
  - Painters do not change habits easily
  - Ease of application and flow properties
  - Resistance to detergents
- Pure acrylic water-based enamel paints
  - More environmentally friendly application & clean-up
  - Faster drying time
  - Non-yellowing
  - Gloss retention



# What to Look for in Environmental Marketing Claims

- Manufacturer willing to disclose VOC content and state compliance with specific standards
- Manufacturer willing to supply additional information, when asked
- Manufacturer willing to confirm that the product excludes any chemicals restricted by the environmental body it claims compliance with
- Product is properly categorized
- Product has good performance and durability, meaning less frequent repainting

# Conclusion

- No industry-wide agreement on what makes a paint eco-friendly...
  - ➔ easy for manufacturers to tailor definition to support their claims
  - ! consumer must be aware
- By providing a high level of transparency & defining the eco-friendliness of their products based on environmental standards
  - ➔ paint manufacturers can avoid misleading their customers

