National Paint & Coatings Association

May 24, 1994

TO: Air Quality Committee
Architectural Coatings Committee
Industrial Coatings Committee
Labeling and Product Safety Committee
Manufacturing Management Committee
Water Quality/Waste Management Committee

FROM: Soonie McDavid, Assistant Director
Environmental Affairs

RE: DRAFT Green Seal Standard on Anti-Corrosive Paints

Enclosed is a DRAFT Green Seal Environmental Criteria for Anti-Corrosive Paints dated May 20, 1994. Green Seal is seeking comments to this proposed standard which will be used in a product certification program. Please review and return your comments to me by June 10, 1994.

Green Seal was founded in 1990 by Earth Day founder Dennis Hayes to help identify environmentally preferable products in an effort to encourage consumers to purchase products with reduced environmental impacts/burdens. Green Seal hopes to encourage manufacturers to develop products which are significantly less damaging to the environment than their predecessors.

NPCA commented on Green Seal's Environmental Standard for Paints (primarily focused on architectural coatings), which was focused on a life-cycle analysis approach, in 1992.

1500 Rhode Island Avenue, NW • Washington, DC 20005-5597 • 202/462-6272 • FAX 202/462-8549

SL 107318

May 20, 1994

Ms. Soony McDavid
Director Environmental Affairs
NPCA
1500 Rhode Island Avenue, NW
Washington, DC 20005

Dear Ms. McDavid:

Green Seal is now accepting comments on proposed environmental criteria we are developing for anti-corrosive paints. Green Seal's existing standard for paint, GS-11, covers primarily architectural coatings.

A separate standard for anti-corrosive paints allows Green Seal to establish environmental requirements more appropriate for this category and to develop performance criteria to evaluate the rust inhibiting properties of products.

While the proposed standard is still in draft form, Green Seal is soliciting comment on the appropriateness of the criteria we have chosen for evaluating environmentally preferable anti-corrosive paints. We also would appreciate suggestions regarding other performance or environmental requirements you believe Green Seal should include in this standard.

Enclosed is an outline of proposed criteria for evaluating anti-corrosive paints. In lieu of, or in addition to written comments, I hope to discuss with you directly any comments you have about the proposed standards. Thank you in advance for your time. I will call you next week to discuss the proposed environmental criteria with you. Or feel free to contact me at Green Seal at 202-331-7337.

Sincerely,

Amy L. Hitchcock

Amy L. Hitchcock
Project Manager

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SL 107319

GREEN SEAL
ENVIRONMENTAL CRITERIA
FOR ANTI-CORROSIVE PAINTS

May 20, 1994

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GREEN SEAL

Green Seal is a non-profit organization devoted to environmental standard setting, product certification, and public education. Green Seal helps identify environmentally preferable products in order to encourage and enable consumers to purchase such products with reduced impacts on the earth. Through its standard setting, certification and education programs, Green Seal:

- identifies products that are designed and manufactured in an environmentally preferable manner;
- offers scientific analysis to help consumers make educated purchasing decisions regarding environmental impacts;
- ensures consumers that any product bearing the Green Seal Certification Mark has earned the right to use it; and
- encourages manufacturers to develop new products that are significantly less damaging to the environment than their predecessors.

THE ENVIRONMENTAL STANDARDS

The intent of Green Seal's standards is to reduce, to the extent technologically and economically feasible, the environmental impacts associated with the manufacture, use, and disposal of products. Set on a category-by-category basis, Environmental Standards focus on opportunities to significantly reduce a product's environmental impact. Each Green Seal Environmental Standard is first issued in proposed form. Industry, trade associations, government agencies, environmental and other public interest organizations, users, and other interested parties are encouraged to comment on the proposal. Standards are then established after careful review and consideration of the comments.

Green Seal offers the opportunity to achieve certification to all products covered by its standards. Manufacturers may submit their products for evaluation by Green Seal. Those which comply with Green Seal's requirements may be authorized to use the Green Seal Certification Mark on products and in product advertising. Manufacturers authorized to use the Green Seal Certification Mark on their product are subject to an ongoing program of testing, inspection, and enforcement. Underwriters Laboratories Inc., the nation's premier product testing and inspection organization, serves as Green Seal's primary testing and factory inspection contractor.

For additional information on Green Seal or any of its programs, contact:

Green Seal
1250 23rd Street, NW, Suite 275
Washington, DC 20037-1101
(202) 331-7337

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SUMMARY OF COMMENTS REQUESTED

When reviewing the standard please pay particular attention to the following areas:

Performance Requirements

- Has Green Seal chosen appropriate testing protocols for adhesion and hiding power?
- When developing the standard, it came to our attention that a test protocol for corrosion/weathering is currently under development by ASTM subcommittee 27. This test reportedly imitates real world corrosion characteristics better than the traditional salt fog test for measuring a paint's rust inhibiting properties. The corrosion/weathering test also reportedly produces more consistent results on a product by product basis.

  What would be the advantages and disadvantages of Green Seal using the corrosion/weathering test currently under development instead of the salt fog test?
- What would constitute acceptable performance by a product when using the test protocols of the salt fog test?
- Should other performance requirements be specified?

Environmental Requirements

- Has Green Seal chosen appropriate VOC limits to recognize environmentally preferable anti-corrosive paints? If not, what levels should be specified?
- How widespread is the use of heavy metals in anti-corrosive paints? Are there any differences in the use and concentrations of heavy metals in industrial anti-corrosive paints versus consumer anti-corrosive paints?
- Are the chemical component restrictions appropriate? Should additional compounds be added or should any listed components be deleted?

SL 107323

ENVIRONMENTAL STANDARD

1 Scope.

This Standard establishes environmental requirements for anti-corrosive paints.

2 Definitions.

For the purpose of this Standard, the following definitions apply.

2.1 **Paints:** Liquid, liquefiable or mastic composition that is converted to a solid protective or functional adherent film after application as a thin layer. These coatings are intended for application to metal surfaces to provide protection from rusting.

2.2 **Volatile Organic Compounds (VOCs):** Compounds as defined by U. S. Environmental Protection Agency (EPA) in 40 CFR § 51.100 (s), (s) (1).

2.3 **Aromatic Compounds:** Hydrocarbon compounds containing one or more 6-carbon benzene rings in the molecular structure.

3 Product-Specific Performance Requirements.

3.1 **Adhesion.** The product shall demonstrate a minimum of Classification 4B according to ASTM D3359-90 Method B, *Standard Test Methods for Measuring Adhesion by Tape Test.*

3.2 **Corrosion/Weathering (Prohesion QUV) Test.** (protocols to be determined.)

OR

Salt Spray (fog) Testing according to ASTM designation B117-90. (parameters to be determined)

3.3 **Hiding Power (Opacity).** The product shall demonstrate a minimum 0.95 contrast rati at 400 square feet per gallon as determined by ASTM D2805-88, *Standard Test Method for Hiding Power of Paints by Reflectometry.*

4 Product-Specific Environmental Requirements.

4.1 Chemical Component Limitations.

4.1.1 **VOCs.** The VOC concentrations of the product shall not exceed those listed below as determined by U. S. Environmental Protection Agency (EPA) Reference Test Method 24 (Determination of Volatile Matter Content, Water Content, Density Volume Solids, and Weight Solids of Surface Coatings), Code of Federal Regulations Title 40, Part 60, Appendix A.

The calculation of VOCs shall exclude water and tinting color added at the point of sale.

Coating Type	VOC weight in grams/liter of product minus water
Gloss	250
Semi-Gloss	225
Satin and Flat	200

4.1.2 **Aromatic Compounds.** The product must contain no more than 1.0% by weight of the sum total of aromatic compounds. Testing for the concentration of these compounds will be performed if they are determined to be present in the product during a materials audit.

4.2 **Chemical Component Restrictions.** The manufacturer shall demonstrate that the following chemical compounds are not used as ingredients in the manufacture of the final product.

4.2.1 Halomethanes

methylene chloride

4.2.2 Chlorinated ethanes

1,1,1-trichloroethane

4.2.3 Aromatic solvents

benzene
toluene (methylbenzene)
ethylbenzene

4.2.4 Chlorinated ethylenes

vinyl chloride

4.2.5 Polynuclear aromatics

naphthalene

4.2.6 Chlorobenzenes

1,2-dichlorobenzene

4.2.7 Phthalate esters

di (2-ethylhexyl) phthalate
butyl benzyl phthalate
di-n-butyl phthalate
di-n-octyl phthalate

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diethyl phthalate
dimethyl phthalate

4.2.8 Miscellaneous semi-volatile organics

isophorone

4.2.9 Metals and their compounds

antimony
cadmium
hexavalent chromium
lead
mercury

4.2.10 Preservatives (antifouling agents)

formaldehyde

4.2.11 Ketones

methyl ethyl ketone
methyl isobutyl ketone

4.2.12 Miscellaneous volatile organics

acrolein
acrylonitrile

5 Packaging Requirements.

5.1 Toxics in Packaging.

5.1.1 The manufacturer shall demonstrate that paint cans and their components are not fabricated with lead.

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Appendix: Labeling Requirements for Certification by Green Seal

Unless therwise approved in writing by Green Seal, the following labeling requirements shall apply:

1 The Green Seal Certification Mark must appear on the packaging.

2 Whenever the certification mark appears on a package or product, the product or package must contain a description of the basis for the certification. The description shall be in a location, style, and typeface that are easily readable by the consumer. The description shall read as follows:

> This product has reduced volatile organic compound (VOC) levels: does not contain specified toxic chemicals.

3 Paints which have been formulated without VOCs shall be designated Class A and may contain a special designation to that effect on the label.

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June 22, 1994

DRAFT

RECOMMENDED INHALATION TESTING

HAZARDOUS AIR POLLUTANTS TO BE CONSIDERED FOR TSCA SECTION 4 TEST RULE PROCESS (1ST RULE)

Biphenyl

- Acute/Subchronic Systemic
- Acute/Subchronic Respiratory
- Acute/Subchronic Neurotoxicity
- 1 species Developmental Toxicity
- 2-Generation Reproductive Test

Carbonyl Sulfide

- Acute/Subchronic Systemic
- Acute/Subchronic Respiratory
- Acute/Subchronic Neurotoxicity
- 2 species Developmental Toxicity
- 2-Generation Reproductive Test
- Cancer test (2 species in both sexes)
- Ames, in vitro gene mutation mammalian test, bone marrow cytogenetics

Chlorine

- Acute Systemic (in both sexes)
- Acute Respiratory (in both sexes)

Chlorobenzene

- Acute/Subchronic Systemic
- Acute/Subchronic Respiratory
- Acute/Subchronic Neurotoxicity

Chloroprene

- Acute Systemic
- Acute Respiratory
- Acute/Subchronic Neurotoxicity
- 1 species Developmental Toxicity
- 2-Generation Reproductive Test

Cresols(mixture or isomers)

- Acute/Subchronic Systemic
- Acute/Subchronic Respiratory
- Acute Neurotoxicity

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Cumene

- Acute Systemic
- Acute Respiratory
- Acute Neurotoxicity
- 2-Generation Reproductive Test

Dibutyl Phthalate

- Acute/Subchronic Systemic
- Acute/Subchronic Respiratory
- Acute/Subchronic Neurotoxicity
- 2 species Developmental Toxicity

Diethanolamine

- Acute/Subchronic Systemic
- Acute/Subchronic Respiratory
- Acute/Subchronic Neurotoxicity
- 2 species Developmental Toxicity
- 2-Generation Reproductive Test

Ethylbenzene

- Acute Systemic
- Acute Respiratory
- Acute/Subchronic Neurotoxicity
- 1 species Developmental Toxicity
- 2-Generation Reproductive Test

Ethyl Chloride

- Acute/Subchronic Neurotoxicity
- 1 species Developmental Toxicity
- 2-Generation Reproductive Test

Ethylene Dichloride

- Acute/Subchronic Systemic
- Acute/Subchronic Respiratory
- Acute/Subchronic Neurotoxicity
- 1 species Developmental Toxicity
- 2-Generation Reproductive Test

Ethylene Glycol

- Acute/Subchronic Systemic
- Acute/Subchronic Respiratory
- Acute/Subchronic Neurotoxicity

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Hydrochloric Acid

- Acute Respiratory

Hydrogen Fluoride

- Acute/Subchronic Systemic
- Acute/Subchronic Respiratory
- Acute/Subchronic Neurotoxicity
- 2 species Developmental Toxicity
- 2-Generation Reproductive Test

Maleic Anhydride

- Acute Systemic
- Acute Respiratory
- Acute/Subchronic Neurotoxicity
- 1 species Developmental Toxicity
- Cancer Test (2 species in both sexes)

Methyl Isobutyl Ketone

- Acute Systemic
- Acute Respiratory
- 2-Generation Reproductive Test

Methyl Methacrylate

- Acute Systemic
- Acute Respiratory
- Acute/Subchronic Neurotoxicity
- 2-Generation Reproductive Test

Naphthalene

- Acute Systemic
- Acute Respiratory
- Acute/Subchronic Neurotoxicity
- 2-Generation Reproductive Test

Phenol

- Acute Systemic
- Acute Respiratory

Phthalic Anhydride

- Acute/Subchronic Systemic
- Acute/Subchronic Respiratory
- Acute/Subchronic Neurotoxicity
- 2 species Developmental Toxicity
- 2-Generation Reproductive Test
- Cancer Test(2 species in both sexes)

1,2,4 Trichlorobenzene

- Acute Systemic
- Acute Respiratory
- Acute/Subchronic Neurotoxicity
- 2 species Developmental Toxicity

1,1,2 Trichloroethane

- Acute/Subchronic Systemic
- Acute/Subchronic Respiratory
- Acute/Subchronic Neurotoxicity
- 2 species Developmental Toxicity
- 2-Generation Reproductive Test
- Cancer Test(modified, i.e. Huff Approach)
- Bone marrow cytogenetics

Vinyl Acetate

- Acute Respiratory
- 1 species Developmental Toxicity

Vinylidene Chloride

- Acute Systemic
- Acute Respiratory
- Acute/Subchronic Neurotoxicity

TOXICITY TESTING OF HAZARDOUS AIR POLLUTANTS

On June 22, 1994, EPA held a briefing to provide industry with background information on the Hazardous Air Pollutant (HAP) Test Rule that will be proposed this Fall. EPA also distributed a list of the HAPs and the testing that will be proposed for each of the chemicals. Briefings have already been held with the environmental groups and other interested parties.

In order to make multi-chemical risk assessment/risk management decisions, the Office of Air Quality Planning and Standards has requested that 3 TSCA section 4 Test Rules be promulgated for HAPs that are missing inhalation data. The data generated by the test rules would provide EPA with a consistent/even data base and allow them to do residual risk analyses on mixtures. EPA's intent is that this test rule respond to the CAA concern for both cancer and non-cancer health effects and that a dose-response via the inhalation route be established.

EPA stated that if the database for a chemical was rich in oral data, they might agree that focused pharmacokinetic will provide enough data for route-to-route extrapolation. In that case, EPA would also require subchronic inhalation studies to evaluate entry portal sensitivity and damage. Only drinking water or feeding studies will be considered when oral data is evaluated.

EPA is seeking industry comment in several areas:

- There will be a problem testing low vapor pressure chemicals, EPA feels that conducting aerosol testing may mimic human exposure and is seeking comment.

- Even though EPA wants all testing by the inhalation route, it is seeking industry input on the most appropriate routes of exposure. EPA is also soliciting feedback on what testing will give the best information to make risk assessments.

- EPA realized that there may not be an adequate number of inhalation chambers available and is looking for ways to "piggy-back" tests.

- Test standards will be proposed with the test rule and EPA will be seeking comment on the appropriateness of the methods.

- EPA is trying to generate good histopathological data on the respiratory system.

The proposed rule will require all testing via the inhalation route. The rat will be the species of choice unless otherwise noted.

EPA expects the proposed test rule to be published in the early or late Fall of 1994.

(over)

SELECTION OF CANDIDATE HAPs FOR TEST RULES

EPA has identified 189 chemicals as hazardous air pollutants. When deciding on the HAP test rule, this group was divided into those with TRI emissions of 50 tons/year or greater and those with TRI emissions of less than 50 tons/year or no TRI data.

EPA determined that there are 66 HAPs in the 1st category. When the existing data was assessed, 16 HAPs had adequate data or were currently undergoing testing. Of the 50 remaining chemicals, 25 were proposed for the 1st test rule.

For the 2nd test rule, EPA is evaluating the remaining 25 chemicals and 10 chemicals that have potential concern under the Great Waters and Urban Toxics provisions of the Clean Air Act. Industry has not been apprised which HAPs are being evaluated for this rule.

The remaining 113 chemicals with TRI emissions of less than 50 tons/year will be evaluated for the 3rd test rule. EPA has stated that some HAPs will immediately be dropped from consideration, i.e. dioxin and asbestos.

TENTATIVE HAPs TEST RULE SCHEDULE

- o 1994 1st test rule proposed (25 HAPs)
- o 1995 1st test rule promulgated
  2nd test rule proposed (approx. 25 HAPs)
- o 1996 2nd test rule promulgated
  3rd test rule proposed (approx. 25 HAPs)
- o 1997 3rd test rule promulgated

July 5, 1994

Explanation of Vinyl Chloride Research Coordinator Budget

An initial budget of $300,000 is proposed for the following activities:

- Contractor cost for the update of vinyl chloride epidemiology study
- Dow Chemical's expenses for designing, monitoring, consulting with the selected contractor, and reviewing interim, draft and final reports for the epidemiological update
- Consultant expenses for vinyl chloride risk assessment and short-term exposure effects studies
- Administrative expenses for update of the epidemiology study; follow-ups with EPA on VC risk assessment; follow-ups with EPA on VC and/or EDC testing under TSCA Section 4; follow-ups with consultants on VC risk assessment and short-term exposure effects studies; meeting planning, attendance, and other routine services; follow-up of action items resulting from meetings and conference calls; and, monitoring of regulatory activities impacting vinyl chloride manufacturing companies

The VCRC has proposed to share the estimated $300,000 budget based upon the 1993 VC nameplate capacity. CMA has used the nameplate capacities for VC published in the attached chart from Chemical Data Inc., September 1993, to determine each company's pro-rata share as follows:

Total 1993 VC Nameplate Capacity	12,918 M lbs.
Westlake 1993 VC Nameplate Capacity	1,000 M lbs.
Total 1993 VC Nameplate Capacity Used in Determining VCRC Member Companies Pro-Rata Share	11,918 M lbs.

COMPANY	NAMEPLATE CAPACITY (Million Lbs.)	PRO-RATA SHARE
Borden Chemical	935	23,536
Dow Chemical	2,210	55,630
Formosa Plastics	1,793	45,133
GEON	1,400	35,241
Georgia Gulf	1,260	31,717
Occidental (w/OxyMar)	2,600	65,447
PPG Industries	840	21,145
Vista Chemical	880	22,151
TOTAL	11,918	300,000

If the above budget is committed by all companies, one-half of the commitment will be due in August, 1994 and the remainder in January, 1995. If Westlake joins the VCRC at a later date, your 1995 amount due will be adjusted accordingly.

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U.S.
VINYL CHLORIDE MONOMER
AVERAGE DESIGN CAPACITY
(Millions of Pounds Per Year)

PRODUCER	LOCATION	FEEDSTOCKS	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997
Borden Chemical	Geismar, LA	Ethylene	525	525	525	568	610	610	610	610	610	610	610	610
	Geismar, LA	Acetylene	325	325	325	325	325	325	325	325	325	325	325	325
Dow Chemical	Oyster Creek, TX	Ethylene	750	810	810	833	900	900	900	910	910	910	910	910
	Oyster Creek, TX	Ethylene	--	--	--	--	--	--	--	--	563	750	750	750
	Plaquemine, LA	Ethylene	850	900	1,040	1,200	1,200	1,275	1,300	1,300	1,300	1,300	1,300	1,300
Formosa Plastics	Point Comfort, TX	Ethylene	580	580	580	690	838	900	900	900	900	900	900	900
	Baton Rouge, LA	Ethylene	420	420	420	420	420	420	315	53	420	420	420	420
	Baton Rouge, LA	EDC	--	--	--	--	--	--	537	840	840	840	840	840
Geon (formally Goodrich)	Calvert City, KY	Ethylene	1,000	1,000	1,000	1,000	See Westlake Monomers							
	La Porte, TX	Ethylene	1,100	1,100	1,250	1,300	1,300	1,400	1,400	1,400	1,400	1,400	1,400	1,400
Georgia Gulf	Plaquemine, LA	Ethylene	1,025	1,100	1,220	1,260	1,260	1,260	1,260	1,260	1,260	1,260	1,260	1,260
Occidental Chem	Deer Park, TX	Ethylene	--	450	925	1,100	1,100	1,100	1,100	1,100	1,100	1,100	1,100	1,100
OxyMar	Corpus Christi, TX	Ethylene	--	--	--	--	--	1,467	1,500	1,500	1,500	1,500	1,500	1,500
PPG Ind.	Lake Charles, LA	Ethylene	600	750	800	800	840	840	840	840	840	840	840	840
Shell	Deer Park, TX	Ethylene	900	450	See Occidental Chemical									
Vista Chemical	Lake Charles, LA	Ethylene	700	738	750	825	825	825	835	880	910	970	990	990
Westlake Monomers	Calvert City, KY	Ethylene	--	--	--	--	1,000	1,000	1,000	1,000	1,000	1,000	1,050	1,050
Total			8,775	9,148	9,645	10,320	10,618	12,322	12,622	12,918	13,878	14,125	14,195	14,195

SEPTEMBER 1993

SL 107335

CMA VC

July 5, Call for
on this
income
$300,000 on 2
$ 21,145 1/2 '94
1/2 '95

SL 107336