

**METRIC**

MIL-PRF-32171  
12 August 2004

## PERFORMANCE SPECIFICATION DECK COATINGS, HIGH DURABILITY, GENERAL SPECIFICATION FOR

This specification is approved for use by all Departments and Agencies of the Department of Defense.

### 1. SCOPE

1.1 Scope. This specification establishes the requirements for high durability, wear resistant deck coatings for use in high traffic areas, with minimal maintenance.

1.2 Classification. Coatings covered by this specification are of the following types, as specified (see 6.2):

Type I - Interior, two-component epoxy based coating.

Type II - Weather deck, two-component epoxy based coating.

Type III - AFFF station decks, two-component epoxy based coating.

Class 1 - Semi-gloss.

Class 2 - Gloss.

### 2. APPLICABLE DOCUMENTS

2.1 General. The documents listed in this section are specified in sections 3, 4, or 5 of this specification. This section does not include documents cited in other sections of this specification or recommended for additional information or as examples. While every effort has been made to ensure the completeness of this list, document users are cautioned that they must meet all specified requirements of documents cited in sections 3, 4, or 5 of this specification, whether or not they are listed.

Comments, suggestions, or questions on this document should be addressed to Commander, Naval Sea Systems Command, ATTN: SEA 05Q, 1333 Isaac Hull Avenue, SE, Stop 5160, Washington Navy Yard DC 20376-5160 or emailed to [commandstandards@navsea.navy.mil](mailto:commandstandards@navsea.navy.mil), with the subject line "Document Comment". Since contact information can change, you may want to verify the currency of this address information using the ASSIST Online database at [www.dodssp.daps.mil](http://www.dodssp.daps.mil)

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## 2.2 Government documents.

2.2.1 Specifications, standards and handbooks. The following specifications, standards, and handbooks form a part of this document to the extent specified herein. Unless otherwise specified, the issues of these documents are those cited in the solicitation or contract.

### FEDERAL STANDARDS

FED-STD-141 - Paint, Varnish, Lacquer and Related materials; Methods of Inspection, Sampling and Testing.

(Copies of these documents are available online at <http://assist.daps.dla.mil/quicksearch> or [www.dodssp.daps.mil](http://www.dodssp.daps.mil) or from the Standardization Document Order Desk, 700 Robbins Avenue, Building 4D, Philadelphia, PA 19111-5094.)

2.2.2 Other Government documents, drawings, and publications. The following other Government documents, drawings, and publications form a part of this document to the extent specified herein. Unless otherwise specified, the issues are those cited in the solicitation.

### CODE OF FEDERAL REGULATIONS

29 CFR 1910.1000 - Subpart Z, Toxic and Hazardous Substances.  
 29 CFR 1990 - Identification, Classification, and Regulation of Potential Occupational Carcinogens.  
 40 CFR 60, Ch.1, Appendix A, Method 24 - Determination of Volatile Matter Content, Water Content, Density, Volume Solids, and Weight Solids of Surface Coatings.  
 40 CFR 63 - National Emission Standards for Hazardous Air Pollutants for Source Categories.  
 40 CFR 82 - Protection of Stratospheric Ozone.  
 40 CFR 302 - Designation, Reportable Quantities, and Notification.  
 40 CFR 355, Appendices A and B - The List of Extremely Hazardous Substances and Their Threshold Planning Quantities.  
 40 CFR 372.65 - Specified Toxic Chemical Listings.

(Copies of these documents are available online at [www.access.gpo.gov/nara/cfr](http://www.access.gpo.gov/nara/cfr) or from the Superintendent of Documents, U.S. Government Printing Office, North Capitol & "H" Streets, N.W., Washington, DC 20402-0002.)

### NAVAL SEA SYSTEMS COMMAND (NAVSEA)

S9510-AB-ATM-010/(U), Volume 1 - Technical Manual for Nuclear Powered Submarine Atmosphere Control Manual.

(Copies of this document are available from the Naval Sea Systems Command, Code SEA 05Q, 1333 Isaac Hull Avenue, SE, Stop 5160, Washington Navy Yard DC 20376-5160.)

2.3 Non-Government publications. The following documents form a part of this document to the extent specified herein. Unless otherwise specified, the issues of these documents are those cited in the solicitation or contract.

### ASTM INTERNATIONAL

ASTM B 117 - Standard Method of Salt Spray (Fog) Testing. (DoD adopted)

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ASTM C 1028 -	Test Method for Determining the Static Coefficient of Friction of Ceramic Tile and Other Like Surfaces by horizontal Dynamometer Pull Meter Method.
ASTM D 522 -	Standard Test Method for Mandrel Bend Test of Attached Organic Coatings. (DoD adopted)
ASTM D 523 -	Standard Test Method for Specular Gloss. (DoD adopted)
ASTM D 610 -	Standard Test Method for Evaluating Degree of Rusting on Painted Steel. (DoD adopted)
ASTM D 714 -	Standard Test Method for Evaluating Degree of Blistering of Paints. (DoD adopted)
ASTM D 1308 -	Standard Test Method for Effect of Household Chemicals on Clear and Pigmented Organic Finishes. (DoD adopted)
ASTM D 1849 -	Standard Test Method for Package Stability of Paint (DoD adopted)
ASTM D 2247 -	Standard Practice for Testing Water Resistance of Coatings in 100% Relative Humidity (DoD adopted)
ASTM D 2697 -	Standard Test Method for Volume Nonvolatile Matter in Clear or Pigmented Coatings (DoD adopted)
ASTM D 2794 -	Standard Test Method for Resistance of Organic Coatings to the Effects of Rapid Deformation (Impact) (DoD adopted)
ASTM D 3278 -	Standard Test Methods for Flash Point of Liquids by Small Scale Closed-Cup Apparatus. (DoD adopted)
ASTM D 3363 -	Standard Test Method for Film Hardness by Pencil Test (DoD adopted)
ASTM D 4060 -	Standard Test Method for Abrasion Resistance of Organic Coatings by the Taber Abraser (DoD adopted)
ASTM E 260 -	Standard Practice for Packed Column Gas Chromatography
ASTM E 1252 -	Standard Practice for General Techniques for Obtaining Infrared Spectra for Qualitative Analysis.
ASTM F 718 -	Shipbuilders and Marine Paints and Coatings; Product/Procedure Data Sheet. (DoD adopted)

(Copies of these documents are available from [www.astm.org](http://www.astm.org) or ASTM International, 100 Barr Harbor Drive, West Conshohocken, PA 19428-2959.)

2.4 Order of precedence. In the event of a conflict between the text of this document and the references cited herein, the text of this document takes precedence. Nothing in this document, however, supersedes applicable laws and regulations unless a specific exemption has been obtained.

### 3. REQUIREMENTS

3.1 First article. When specified (see 6.2), a sample shall be subjected to first article inspection in accordance with 4.2.

3.2 Recycled, recovered, or environmentally preferable materials. Recycled, recovered, or environmentally preferable materials should be used to the maximum extent possible provided that the material meets or exceeds the operational and maintenance requirements, and promotes economically advantageous life cycle costs.

3.3 Ozone-depleting substances (ODS). The use of any ODS in the composition of the coating under this specification, directly or referenced in any test method, is herewith prohibited. Class I or Class II ozone-depleting chemicals are defined by 40 CFR 82.

3.4 Toxicity. The coating shall have no adverse effect on the health of personnel when used for its intended purpose (see 6.4). The material used in the coating shall have no known carcinogenic or potentially carcinogenic materials identified by OSHA (29 CFR 1990) as regulated carcinogens, or IARC latest monographs, or the latest annual report of the NTP; and shall have no extremely hazardous substances (EHS) or toxic chemicals identified in 29 CFR 1910.1000, 40 CFR 302, 355 and 372,

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respectively. The manufacturer is responsible for maintaining carcinogenic free, extremely hazardous substance free and toxic chemical free materials. The manufacturer shall not, unless specific material maximum levels are cited herein, allow the addition of any of these prohibited materials to the formulation; and when any of these prohibited materials are/may be present, as a result of being present as a trace or impurity in other ingredient(s), the concentration of the prohibited material shall not equal or exceed 0.01 percent by weight of the coating. The material shall be evaluated at the Navy Environmental Health Center (NEHC) (see 4.5.1, 6.2 and 6.4).

3.5 Off-gassing. The coating shall be tested for off-gassing in accordance with the Nuclear Powered Submarine Atmosphere Control Manual, NAVSEA Technical Manual S9510-AB-ATM-010/(U), for a usage category of Limited (see 4.5.2 and 6.5).

3.6 Volume solids. The volume of solids of the coating shall be 65% minimum.

3.7 Volatile Organic Content (VOC) solvent. The VOC of all types and classes of the coating shall not exceed 250 grams per liter (g/L).

3.8 Flash point. The flash point of the coating shall be not less than 38°C (100°F).

3.9 Shelf life. The shelf life of the coating shall be at least 12 months, with a minimum level 8 reported for all qualities.

3.10 Drying or cure time. Coatings shall require not more than 24 hours between coats for full cure and shall be ready for service within seven (7) days after the application of the last coat. Application and cure shall be at the temperature specified by the manufacturer. In the absence of manufacturer's guidance, the temperature selected shall be at the low end of the temperature range (suggested 21°C and 80% relative humidity).

3.11 Abrasion resistance. The abrasion resistance of the coating shall not exceed 70 mg loss.

3.12 Impact resistance. Impact resistance of the coating shall not be less than 50 inch pounds.

3.13 Flexibility. A film of coating shall show no checking, cracking or flaking.

3.14 Pencil hardness. The pencil hardness of the coating shall be HB min.

3.15 Slip resistance. The slip resistance of the coating shall be no less than 0.50 static coefficient of friction.

3.16 Hazardous air pollutant (HAP) content. The content of the HAPs solvents in the liquid coating shall not exceed the weight percent (%wt) values listed in Table I. Within these limitations and the requirement that the finished coating meet all requirements of this specification, solvent selection is the responsibility of the manufacturer. HAP materials are defined by 40 CFR 63.

3.17 Product/procedure data sheet. Manufacturers of coatings shall provide the ASTM F 718 forms to the qualifying activity. The product/procedure data sheet shall also be included with each shipment of the material covered by this specification.

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Table I. Hazardous air pollutant solvent content limits.

Hazardous solvent in each individual total coating	Maximum, % wt
Benzene	0.05
Chlorinated solvent (s), total	0.05
Solvents containing fluorine as defined by 40 CFR Part 82	0.01
Ethyl benzene	0.05
Methyl, Ethyl and Butyl mono-ethers of ethylene glycol or the acetates thereof, total (also known as methyl, ethyl and butyl cello solves and methyl, ethyl and butyl cello solve acetates)	0.05
Methyl ethyl ketone (MEK)	0.05
Methyl isobutyl ketone (MIBK)	0.05
Toluene	0.05
Xylene (all forms), total	0.1

3.18 Condition in container. The coating shall be free from grit, seeds, skins, abnormal thickening, or living in a freshly opened container, and shall show no more pigment settling or caking than can be easily and completely reincorporated to a smooth, uniform state. Water based coatings shall also be free of rust staining, emulsion breakdown, spoilage and rancidity. Container shall be free of corrosion.

3.19 Resistance to water. When tested as specified herein, a film of coating shall show no wrinkling or blistering immediately after removal of the wetted sponges. The coating shall be no more than slightly affected when examined 2 hours after removal of the wetted sponges. After 24 hours of air drying, the portion of the panel which was covered by the wetted sponges shall be almost indistinguishable with regard to hardness and adhesion from the portion which was not immersed. A slight discoloration of the portion of the panel covered by the wetted sponges shall be permitted.

3.20 Resistance to hydrocarbon fluid. When tested as specified herein, a film of coating shall show no blistering or wrinkling and no more than a slight whitening or softening upon removal of the fluid wetted sponge. After 2 hours of air drying, the portion of the panel that was covered by fluid wetted sponge shall be almost indistinguishable with regard to hardness, color, and gloss from a panel prepared at the same time, but not immersed.

3.21 Resistance to salt spray (type II only). When tested as specified herein, a film of coating examined immediately after removal from the test shall show no more than a trace of corrosion in accordance with ASTM D 610 and no more than five scattered blisters no larger than 1 mm in diameter.

3.22 Resistance to condensation blister. When tested as specified herein, a film of coating shall show a maximum ASTM D 714 blister rating of 8 and be rated few or better after testing for 100 hours. Blister growth shall be limited to a rating of 6 and rated few when evaluated in accordance with ASTM D 714 at 300 and 500 hours. Blisters within 12 mm of all edges shall be disregarded.

3.23 Pot life. The pot life of the coating shall be a minimum of 1 hour at 21°C (70°F) and 80 percent humidity.

3.24 Gloss. Specular gloss of the coating shall be between 45% and 60% for Class 1 and between 60% and 85% for Class 2.

3.25 Resistance to AFFF. When tested as specified herein, a film of coating examined immediately after removal from the test shall be almost indistinguishable with regard to hardness, color, and gloss from a panel prepared at the same time, but not immersed.

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3.26 Serviceability. The deck coating shall show no deficiencies that would limit its serviceability when examined during and after the minimum service period specified.

#### 4. VERIFICATION

4.1 Classification of inspections. The inspection requirements specified herein are classified as follows:

- a. First article inspection (see 4.2)
- b. Conformance inspection (see 4.3)

4.2 First article inspection. First article inspection shall consist of the examinations and tests specified in Table II.

4.2.1 First article sample. The first article sample shall consist of 4 liters (1 gallon) each of Parts A and B.

4.2.2 Toxicological product formulations. The contractor shall have the toxicological product formulations and associated information, including the material safety data sheet (MSDS), available for review by the contracting activity to evaluate the safety of the material for the proposed use.

#### 4.3 Conformance inspection.

4.3.1 Lot. For purposes of conformance inspection, a lot shall consist of all coating of the same formula number from a single uniform batch or single uniform blend of batches (for each component) offered for delivery at one time. Two representative samples of component A and of component B from each lot of paint (total of 4 samples per lot) shall be evaluated for verification tests. The 4 samples per lot shall be packaged in separate containers. Minimum size for each sample shall be 1 liter (1 quart).

4.3.2 Conformance tests. Conformance tests for acceptance of individual lots shall consist of all tests identified in table II. As a minimum, the contractor shall select representative samples from the first and last containers from each lot of each component, and subject the samples to all conformance tests. Results shall meet the applicable requirements in section 3.

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TABLE II. First article and conformance testing.

Item	First article testing required	Conformance testing required	Test Paragraph	Requirement paragraph
Toxicity	Yes	No	3.4	4.5.1
Off-gassing	Yes	No	3.5	4.5.2
Volume solids	Yes	No	3.6	4.5.3
Volatile Organic Content (VOC) solvent	Yes	No	3.7	4.5.4
Flash point	Yes	Yes	3.8	4.5.5
Shelf life	Yes	No	3.9	4.5.6
Drying or cure time	Yes	No	3.10	4.5.7
Abrasion resistance	Yes	Yes	3.11	4.5.8
Impact resistance	Yes	No	3.12	4.5.9
Flexibility	Yes	No	3.13	4.5.10
Pencil hardness	Yes	Yes	3.14	4.5.11
Slip resistance	Yes	No	3.15	4.5.12
Hazardous air pollutant (HAP) content	Yes	No	3.16	4.5.13
Condition in container	Yes	Yes	3.18	4.5.14
Resistance to water	Yes	No	3.19	4.5.15
Resistance to hydrocarbons	Yes	No	3.20	4.5.16
Resistance to salt spray (Type II only)	Yes	No	3.21	4.5.17
Condensated blister resistance	Yes	No	3.22	4.5.18
Pot life	Yes	No	3.23	4.5.19
Gloss	Yes	Yes	3.24	4.5.20
Resistance to AFFF (Type III only)	Yes	No	3.25	4.5.21
Servicability	Yes	No	3.26	4.5.22

4.4 Inspection conditions. Unless otherwise specified, all inspections shall be performed in accordance with the test conditions specified in section 4.

4.5 Test methods. The coating shall be tested in accordance with the applicable methods specified herein.

4.5.1 Toxicity. To determine conformance with the requirements of 3.4, the material shall be evaluated at the Navy Environmental Health Center (NEHC) (see 3.4, 6.2 and 6.4).

4.5.2 Off-gassing. The coating shall be tested in accordance with the Nuclear Powered Submarine Atmosphere Control Manual, NAVSEA Technical Manual S9510-AB-ATM-010/(U), by a Government approved testing facility. The results shall be submitted to the Government for evaluation and approval for use (see 3.5 and 6.5).

4.5.3 Volume Solids. Volume solids shall be tested in accordance with ASTM D 2697.

4.5.4 Volatile Organic Content (VOC) solvent. VOC shall be determined in accordance with 40 Code of Federal Regulations (CFR) ch.1, part 60, appendix A, method 24.

4.5.5 Flash point. Flash point shall be tested in accordance with ASTM D 3278.

4.5.6 Shelf life. Shelf life shall be tested in accordance with ASTM D 1849. Storage temperature shall be 25 +/- 2°C.

4.5.7 Drying or cure time. The coating shall be tested for cure time in accordance with FED-STD-141, Method 4061.

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4.5.8 Abrasion resistance. Abrasion resistance shall be tested in accordance with ASTM D 4060 using the CS 17 wheel, 1000 cycles and a 1Kg load.

4.5.9 Impact resistance. Impact resistance shall be tested in accordance with ASTM D 2794.

4.5.10 Flexibility. Flexibility shall consist of a 180° bend over a 3.2 mm diameter (1/8-inch) mandrel in accordance with ASTM D 522.

4.5.11 Pencil hardness. Pencil hardness shall be tested in accordance with ASTM D 3363.

4.5.12 Slip resistance. Slip resistance shall be tested in accordance with ASTM C 1028.

4.5.13 Hazardous air pollutant (HAP) content. Hazardous solvent content of each coating shall be determined in accordance with ASTM E 260 or Methods 7356 and 7360 of FED-STD-141, as applicable. Solvent fractions shall be identified in accordance with ASTM E 1252 with the results recorded as the percent weight of the total paint. Alternate methods of analysis must be reviewed and approved by NAVSEA. Formulation data may be used by manufacturers in lieu of testing to demonstrate compliance with hazardous air pollutant requirements of this specification. The manufacturer's formulation data must have a consistent and quantitatively known relationship to the testing required. Calculation of individual HAP contents can be based on either manufacturer evaluation of batches or supplier data for raw materials used in the product.

4.5.14 Condition in container. Condition in container shall be tested in accordance with method 3011.2 of FED-STD 141.

4.5.15 Resistance to water. Using primed test panels, spray the coating to a wet film thickness specified by the manufacturer and allow the coating to air dry 48 hours. After the final coat of the system has been applied, air dry 30 days. Coat all exposed surfaces. The panel shall be laid flat and sponges wet with distilled water shall be laid on the panel in a manner to cover the full face of the test panel. The sponges shall be kept wet for a period of 7 days at ambient laboratory conditions. The sponges may be covered, but such covering shall not be restrict all evaporation. Evaporation will leach water soluble materials from the paint into the sponge. On removal of the sponge(s), observe the panel for ASTM D 1308 effects after 2 and 24 hours. Test results shall be in accordance with the requirements herein.

4.5.16 Resistance to hydrocarbon fluid. Using primed steel test panels, spray the coating to a wet film thickness specified by the manufacturer, and allow the coating to air dry 48 hours. After the final coat of the system has been applied, air dry 30 days. Coat all exposed surfaces. The test panel shall be laid flat and sponges wet with commercial kerosene or jet fuel shall be laid on the panel in a manner to cover the full face of the test panel. The sponge shall be kept wet for a period of 24 hours at ambient laboratory conditions. The sponges may be covered to restrict evaporation. On removal of the sponge, observe the panel for ASTM D 1308 effects. Test results shall be in accordance with the requirements herein.

4.5.17 Resistance to salt spray (type II only). Using primed steel test panels, spray the coating to a wet film thickness specified by the manufacturer, and allow the coating to air dry 48 hours. After the final coat of the system has been applied, air dry 30 days. Coat all exposed surfaces. Expose the unscored panels to 5 percent salt spray for 14 days in accordance with ASTM B 117. Upon removal, wash the panels gently in warm running water (not more than 38°C) until free from any visible salt deposits and examine immediately in accordance with ASTM D 610. Test results shall be in accordance with the requirements herein.

4.5.18 Resistance to condensation blister. Using primed test panels, spray the coating to a wet film thickness specified by the manufacturer, and allow the coating to air dry 48 hours. After the final coat of the system has been applied, air dry 30 days. Coat all exposed surfaces. The test shall be conducted in accordance with ASTM D 2247 for 100, 300 and 500 hours. Evaluation will be conducted and blisters rated in accordance with ASTM D 714. Test results shall be in accordance with the requirements herein.



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4.5.19 Pot life. The coating shall be mixed from the components, in accordance with the manufacturer's instructions, in a container so as to result in approximately 1 liter (1 quart) of finished material. For routine testing, ambient conditions above 21°C (70°F) and 50 percent relative humidity shall be satisfactory. For referee tests, 21 +/- 3°(70 +/-5°F) and 80 +/- 10 percent humidity shall prevail. The time between mixing and the loss of adequate brushing and spraying properties shall be determined. Report up to a 48-hour period the actual temperature, humidity and the time of loss of adequate brushing and spraying properties.

4.5.20 Gloss. Gloss shall be tested in accordance with ASTM D 523.

4.5.21 Resistance to AFFF (type III only). Using primed steel test panels, spray the coating to a wet film thickness specified by the manufacturer, and allow the coating to air dry 48 hours. After the final coat of the system has been applied, air dry 30 days. Coat all exposed surfaces. The test panels will be suspended in covered containers of 6 percent AFFF diluted with natural sea water, 35 percent AFFF diluted with natural sea water, and 100 percent AFFF for 30 days. On removal from the container, observe the panel for ASTM D 1308 effects. Test results shall be in accordance with the requirements herein.

4.5.22 Serviceability. The deck coating shall be applied in high traffic areas aboard ship for a minimum service period of 6 months.

## 5. PACKAGING

5.1 Packaging. For acquisition purposes, the packaging requirements shall be as specified in the contract or order (see 6.2). When packaging of materiel is to be performed by DoD or in-house contractor personnel, these personnel need to contact the responsible packaging activity to ascertain packaging requirements. Packaging requirements are maintained by the Inventory Control Point's packaging activities within the Military Service or Defense Agency, or within the military service's system commands. Packaging data retrieval is available from the managing Military Department's or Defense Agency's automated packaging files, CD-ROM products, or by contacting the responsible packaging activity.

## 6. NOTES

(This section contains information of a general or explanatory nature that may be helpful, but is not mandatory.)

6.1 Intended use. The material covered by the specification is intended for use as high durability, wear resistant deck coating for use in high traffic areas, with minimal maintenance. The coating may be supplied with and without aggregate (see 6.2). Type I is intended for non-weather deck applications. Type II should be used for weather deck applications. Class 1 provides a less glossy finish than Class 2.

6.2 Acquisition requirements. Acquisition documents should specify the following:

- (a) Title, number, and date of this specification.
- (b) Type and class (see 1.2).
- (c) When a first article sample is required (see 3.1).
- (d) Packaging requirements (see 5.1).
- (e) Is Material Safety Data Sheet required? (see 6.3).
- (f) Toxicity conformance (see 3.4 and 6.4).
- (g) The coating must not contain any intentionally added ozone-depleting substances (ODS). A manufacturer's certificate of compliance is required.
- (h) Is aggregate required? (see 6.1)

6.3 Material safety data sheets. Contracting officers will identify those activities requiring copies of completed Material Safety Data Sheets prepared in accordance with FED-STD-313. In order to obtain the MSDS, FAR clause 52.223-3 must be in the contract.

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6.4 Toxicity evaluation. Questions concerning toxicity and requests for health hazard risk assessments should be addressed to Commanding Officer, Navy Environmental Health Center, 2150 Walmer Avenue, Norfolk, Virginia 23513-2617, Attention: Industrial Hygiene Directorate / Hazardous Materials Development. NEHC requires sufficient information to permit a toxicological evaluation of the product. As a minimum, the information must include approximate percentages, by weight, of each ingredient in the product; identification of its pyrolysis products; and any other information that may be needed to permit an accurate appraisal of toxicity problems associated with the handling, storage, application, use, removal, disposal or combustion of the product. Upon receipt of the risk assessment performed by NEHC, a copy should be provided to Commander, Naval Sea Systems Command, Code 05M, 1333 Isaac Hull Avenue, Washington Navy Yard, Washington DC 20376.

6.5 Off-gassing. Materials to be installed in submarines are to be controlled to prevent off-gassing, which contaminates the atmosphere and results in health hazards to personnel or deleterious effects on machinery. These controls are accomplished through the Submarine Material Control Program, which is described in the Nuclear Powered Submarine Atmosphere Control Manual, NAVSEA Technical Manual S9510-AB-ATM-010/(U). Under the Submarine Material Control Program, all materials considered for use on submarines require certification and assignment of a usage category. Under the certification process, candidate materials are selected by Navy activities or contractors, and a request for certification is submitted to the Naval Sea Systems Command, SEA 05Z93, 1333 Isaac Hull Ave., SE Washington Navy Yard, DC 20376-5133. The certification request is accompanied by detailed information, including descriptions of the material, method of application, usage and storage. A chemical analysis is conducted, which is normally accomplished through off-gas testing. The off-gas test is required to be conducted in a Government approved laboratory designated by the preparing activity. Information pertaining to this test requirement may be obtained from the Naval Sea Systems Command, SEA 05Q, 1333 Isaac Hull Ave., SE Washington Navy Yard, DC 20376-5133. Based on the chemical analysis results, a usage category is assigned to the material defining whether, and to what extent, the material may be used on submarines.

6.6 Shelf life. This specification covers items where shelf life is a consideration. Specific shelf-life requirements should be specified in the contract or purchase order. The shelf-life codes are contained in the Federal Logistics Information System Total Item Record. Additive information for shelf-life management may be obtained from *DoD 4140.27-M, Shelf-life Management Manual*, or the designated shelf-life Points of Contact (POC). The POC should be contacted in the following order: (1) the Inventory Control Points (ICPs), and (2) the DoD Service and Agency administrators for the DoD Shelf-life Program. Appropriate POCs for the DoD Shelf-Life Program can be contacted through the DoD Shelf-Life Management website: <http://www.shelflife.hq.dla.mil/>.

6.7 Subject term (key word) listing.  
Paint

Custodians:  
Army - MI  
Navy - SH  
Air Force - 11

Preparing Activity:  
Navy - SH  
(Project 8010-0207)

Review activities:  
Army - MR  
Navy - AS  
Air Force - 84, 99  
Coast Guard - CG

Civil agencies:  
GSA - 6FEE

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