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NOT MEASUREMENT
SENSITIVE

MIL-PRF-_____
PROPOSED

PERFORMANCE SPECIFICATION

CLEANER, NON-AQUEOUS, LOW-VOC, HAP-FREE

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

1. SCOPE

1.1 Scope. This specification covers non-aqueous cleaners that are free of hazardous air pollutants (HAP) and contain a low amount (no more than 25 grams per liter) of volatile organic compounds (VOC), for cleaning aircraft components, ground support equipment, and other general applications (see 6.1).

1.2 Classification. The cleaners are available in the following types:

1.2.1 Types. The types of cleaners are as follows:

Type I – Vapor pressure \leq 7 millimeters of mercury

Type II – Vapor pressure \leq 45 millimeters of mercury

2. APPLICABLE DOCUMENTS

2.1 General. The documents listed in this section are specified in sections 3 and 4 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 and 4 of this specification, whether or not they are listed.

Comments, suggestions, or questions on this document should be addressed to: Commander, Naval Air Warfare Center Aircraft Division, Code 41K000B120-3, Highway 547, Lakehurst, NJ 08733-5100 or emailed to michael.sikora@navy.mil. Since contact information can change, you may want to verify the currency of this address information using the ASSIST Online database at <http://assist.daps.dla.mil>

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.

DEPARTMENT OF DEFENSE SPECIFICATIONS

- MIL-PRF-10924 - Grease, Automotive and Artillery
- MIL-G-21164 - Grease, Molybdenum Disulfide, for Low and High Temperatures, NATO Code Number G-353
- MIL-PRF-81733 - Sealing And Coating Compound, Corrosion Inhibitive
- MIL-PRF-83282 - Hydraulic Fluid, Fire Resistant, Synthetic Hydrocarbon Base, Aircraft, Metric, NATO Code Number H-537
- MIL-W-81381/11 - Wire, Electric, Fluorocarbon/polyimide Insulated, Medium Weight, Silver Coated Copper Conductor, 600 Volts, 200 Deg.C, Nominal 8.4 or 15.4 Mil Wall

DEPARTMENT OF DEFENSE SPECIFICATIONS

- MIL-STD-1916 DoD Preferred Methods for acceptance of Product

(Copies of these documents are available online at <http://assist.daps.dla.mil/quicksearch/> or <http://assist.daps.dla.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

- 40 CFR 401 - Protection of Environment (Toxic pollutants)
- 40 CFR 82 - Protection Of Stratospheric Ozone

(Copies of these documents are available from <http://www.gpoaccess.gov/cfr> or Superintendent of Documents, US Government Printing Office, Washington, DC 20402.)

ENVIRONMENTAL PROTECTION AGENCY (EPA)

- EPA Method 8260B Method for Volatile Organic Compounds by Gas Chromatography/Mass Spectrometry (GC/MS)

(Copies of these documents are available from <http://www.epa.gov> or Superintendent of Documents, US Government Printing Office, Washington, DC 20402.)

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.

AMERICAN SOCIETY FOR QUALITY (ASQ)

- ASQ-Z1.4 - Procedures, Sampling and Tables for Inspection by Attributes (DoD adopted)

(Copies of these documents are available from <http://www.asq.org> or the American Society for Quality, 600 Plankinton Avenue, Milwaukee, WI 53203.)

AMERICAN SOCIETY FOR TESTING AND MATERIALS (ASTM)

- ASTM D56 - Standard Test Method for Flash Point by Tag Closed Cup Tester (DoD Adopted)
- ASTM D130 - Standard Test Method for Corrosiveness to Copper from Petroleum Products by Copper Strip Test (DoD Adopted)
- ASTM D847 - Standard Test Method for Acidity of Benzene, Toluene, Xylenes, Solvent Naphthas, and similar Industrial Aromatic Hydrocarbons (DoD Adopted)
- ASTM D891 - Standard Test Method for Specific Gravity, Apparent, of Liquid Industrial Chemicals (DoD Adopted)
- ASTM D1296 - Standard Test Method for Odor of Volatile Solvents and Diluents (DoD Adopted)
- ASTM D1353 - Standard Test Method for Nonvolatile Matter in Volatile Solvents for Use in Paint, Varnish, Lacquer, and Related Products (DoD Adopted)
- ASTM D2240 - Standard Test Method for Rubber Property-Durometer Hardness (DoD Adopted)
- ASTM D2879 - Standard Test Method for Vapor Pressure-Temperature Relationship and Initial Decomposition Temperature of Liquids by Isoteniscope (DoD Adopted)
- ASTM D2989 - Standard Test Method for Acidity-Alkalinity of Halogenated Organic Solvents and Their Admixtures (DoD Adopted)
- ASTM F483 - Standard Test Method for Total Immersion Corrosion Test for Aircraft Maintenance Chemicals (DoD Adopted)
- ASTM F484 - Standard Test Method for Stress Crazeing of Acrylic Plastics in Contact with Liquid or Semi-liquid Compounds (DoD Adopted)
- ASTM F485 - Standard Test Method for Effects of Cleaners on Unpainted Aircraft Surfaces
- ASTM F502 - Standard Test Method for Effects of Cleaning and Chemical Maintenance Materials on Painted Aircraft Surfaces (DoD Adopted)

- ASTM F519 - Standard Test Method for Mechanical Hydrogen Embrittlement Evaluation of Plating Processes and Service Environments DoD adopted)
- ASTM F945 - Standard Test Method for Stress-Corrosion of Titanium Alloys by Aircraft Engine Cleaning Materials (DoD Adopted)
- ASTM F1110 - Standard Test Method for Sandwich Corrosion Test (DoD Adopted)
- ASTM F1111 - Corrosion of Low-Embrittling Cadmium Plate by Aircraft Maintenance Chemicals (DoD Adopted)

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

SOCIETY OF AUTOMOTIVE ENGINEERS (SAE INTERNATIONAL)

- AMS4377 - Magnesium Alloy, Sheet and Plate -3.0 Al, 1.0 Zn, Cold Rolled, Partially Annealed (DoD Adopted)
- AMS4911 - Titanium Alloy, Sheet, Strip, and Plate 6Al-4V Annealed (DoD Adopted)
- AMS5040 - Steel, Sheet and Strip 0.15 Carbon, Maximum Deep Forming Grade (DoD Adopted)
- AMS-M-3171 - Magnesium Alloy, Processes for Pretreatment and Prevention of Corrosion on (DoD Adopted)
- AMS-P-83310 - Plastic Sheet, Polycarbonate, Transparent (DoD Adopted)
- AMS-QQ-A-250/4 - Aluminum Alloy 2024, Plate And Sheet (DoD Adopted)
- AMS-QQ-A-250/12 - Aluminum Alloy 7075, Plate and Sheet (DoD Adopted)
- AMS-S-8802 - Sealing Compound, Temperature-Resistant, Integral Fuel Tanks and Fuel Cell Cavities, High Adhesion (DoD Adopted)

(Copies of these documents are available from <http://www.sae.org> or SAE World Headquarters, 400 Commonwealth Drive, Warrendale, PA 15096-0001)

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 Qualification. The cleaners furnished under this specification shall be products that are authorized by the qualifying activity for listing on the applicable qualified products list before contract award (see 4.2 and 6.3).

3.2 Material. The cleaners supplied under this specification shall be homogenous liquids, that are clear (without turbidity), stable, and free of haze and suspended matter.

3.2.1 Composition. The cleaners shall be of the same composition and specific gravity as that of the qualification sample. Any change in the formulation of a qualified product shall require requalification.

3.2.2 Prohibited materials. The cleaners shall contain no known or suspected human carcinogens (see 6.8.1), no hazardous air pollutants (see 6.8.2), no toxic pollutants (see 40 CFR 401), and no ozone depleting substances (see 40 CFR 82).

3.3 Toxicity. The cleaners supplied under this specification shall have no adverse effect on human health when used for their intended purpose (see 6.1 and 6.7).

3.4 Performance requirements. The cleaners shall meet the performance requirements listed in table I.

3.5 Storage stability. The cleaners, after storage in its original, unopened container for not less than one year at a temperature of 90 ± 2 °F (34 ± 1 °C), shall meet all the requirements of this specification.

Table I. Properties and Test Methods.

PROPERTY	REQUIREMENT		TEST METHOD
VOC content, grams/liter (maximum)	25		EPA Method 8260B
Apparent specific gravity, 60/60 °F	No change from qualification sample		ASTM D891
Vapor pressure, mm Hg at 20 °C (maximum)	Type I 7	Type II 45	ASTM D2879
Flash point, °F (°C) (minimum)	140 (60)		ASTM D56
Nonvolatile residue, mg/100ml, (maximum)	5		ASTM D1353
Acidity	Neutral		ASTM D847
Alkalinity, % by weight as NaOH (maximum)	0.02		ASTM D2989
Odor	Low, non-residual		ASTM D1296
Miscibility with water	Immiscible		4.5.1
Drying time, minutes (maximum)	15		4.5.2
Low temperature stability	No separation		4.5.3
Sandwich corrosion (maximum)	Rating of 1 (or no effect greater than distilled water)		ASTM F1110
Immersion corrosion, mg/cm ² /day (maximum) Aluminum, Titanium, Steel Magnesium	0.04 0.20		ASTM F483 4.5.4
Cadmium corrosion test, mg/cm ² /day (maximum)	0.20		ASTM F1111
Copper corrosion (maximum)	1b		ASTM D130 4.5.5
Effect on unpainted surfaces	No streaks or stains		ASTM F485
Hydrogen embrittlement	No failures in less than 150 hours when specimens are loaded to 45 percent of fracture strength and immersed in cleaner		ASTM F519 4.5.6

Table I. Properties and Test Methods – Continued.

PROPERTY	REQUIREMENT		TEST METHOD
Titanium stress corrosion (examined with 500X magnification)	No cracking		ASTM F945 Method A
Effect on painted surfaces	No streaks, fading, or blisters, No discoloration or softening >1 pencil hardness		ASTM F502
Effect on plastics Acrylic, type A & C Polycarbonate, AMS-P-83310	No crazing No crazing after 2 hrs at 2000 psi		ASTM F484
Effect on polyimide wire	No more insulation cracking than with distilled water and no subsequent dielectric breakdown or leakage		4.5.7
Effect on sealant	No change in Shore A hardness greater than ± 5 units		4.5.8
Cleaning efficiency on MIL-PRF-83282 soil MIL-G-21164 soil MIL-PRF-10924 grease	Type I No less than 85% No less than 60% No less than 75%	Type II No less than 95% No less than 70% No less than 90%	4.5.9

4. VERIFICATION

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

- a. Qualification inspection (see 4.2).
- b. Conformance inspection (see 4.3).

4.2 Qualification inspection. The qualification inspection (see 6.3) shall consist of all tests and examinations of this specification. Failure of any examination or test shall be cause for rejection.

4.3 Conformance inspection. Conformance inspection shall consist of the tests listed in table II and the examinations listed in 4.3.2.

Table II. Conformance inspection

TEST	REFERENCE
Apparent specific gravity	Table I
Flash point	Table I
Non-volatile residue	Table I
Odor	Table I
Miscibility with water	4.5.1
Immersion corrosion	4.5.4
Copper corrosion	4.5.5
Cleaning efficiency	4.5.9

4.3.1 Sampling for conformance tests. Sampling of a lot (see 6.6) for test purposes shall be in accordance with MIL-STD-1916 (see 6.2d) Samples for tests shall consist of unopened containers of cleaner selected at random from each lot. Containers shall only be opened when being tested. Any failure shall be cause for rejection of the lot.

4.3.2 Visual inspection of filled containers. Samples for visual inspection shall be selected at random from each lot in accordance with MIL-STD-1916, verification level I. The lot size for this inspection shall be the number of containers fully prepared for delivery. The selected samples shall be examined for container fill, completion of item identification, and chemical warnings. Any failure shall be cause for rejection of the lot.

4.4 Inspection conditions. Unless otherwise specified in the test method or paragraph, laboratory test conditions for all inspections and tests in this specification shall be 72 ± 4 °F (22 ± 2 °C) and a relative humidity of 50 ± 20 percent.

4.5 Test methods. The tests of this specification shall be conducted in accordance with table I and 4.5.1 through 4.5.9.

4.5.1 Miscibility with water. Twenty milliliters of the cleaner and 20 milliliters of distilled water shall be added to a 50 milliliter graduated cylinder and thoroughly shaken for 10 seconds. After 5 minutes the graduated cylinder shall be examined for clarity and volume of each phase. The cleaner shall be considered immiscible if two clear phases separate cleanly with no volume change of either phase.

4.5.2 Drying time. One gram of cleaner shall be added to a pre-weighed aluminum weighing dish (all weights shall be to the nearest 0.0001 gram). The weighing dish shall be 57 ± 1 mm in diameter and no more than 1.5 grams in weight. The dish shall then be reweighed and immediately placed in a forced draft oven at 120 ± 2 °F (49 ± 1 °C). After 15 minutes, the dish shall be removed from the oven, cooled for 30 seconds by placing it on a clean metallic surface, and then immediately reweighed. If the cleaner remaining is no more than 0.1 percent of the original weight of cleaner used, the drying time shall be considered to be no more than 15 minutes.

4.5.3 Low temperature stability. Fifty milliliters of the cleaner shall be added to a test tube of suitable size and placed in a 0 ± 2 °F (-18 ± 1 °C) cold box for 24 hours. The tube shall be removed and allowed to return to room temperature, after which it shall be inverted five times and examined for homogeneity.

4.5.4 Immersion corrosion. The immersion corrosion test shall be conducted in accordance with ASTM F483 on test panels constructed of the following materials:

- a. Aluminum alloy 2024 (T3 temper), conforming to SAE-AMS-QQ-A-250/4
- b. Aluminum alloy 7075 (T6 temper), conforming to SAE-AMS-QQ-A-250/12
- c. Titanium alloy (6Al-4V), conforming to SAE-AMS4911
- d. Carbon steel (1020), conforming to SAE-AMS5040
- e. Magnesium alloy (AZ31B-H24), conforming to SAE-AMS4377, chrome pickled to SAE-AMS-M-3171, type VI

4.5.5 Copper corrosion. The copper corrosion test shall be conducted in accordance with ASTM D130 using a 24-hour soak in cleaner at 100 ± 2 °F (38 ± 1 °C).

4.5.6 Hydrogen embrittlement.

4.5.6.1 Specimens. Hydrogen embrittlement characteristics shall be determined in accordance with ASTM F519, using cadmium-plated AISI4340, type 1a specimens. Plating shall be applied using treatment B and shall cover the notch and surfaces within 0.5 inch (13 mm) of the notch; threaded surfaces shall not be plated. Plated specimens shall be baked in accordance with ASTM F519.

4.5.6.2 Procedure. Four specimens shall be tested as follows. Each specimen shall be stressed by applying a load equivalent to 45 percent of notch fracture strength. The notch shall be immersed in the cleaner for the duration of the test. Discontinue the test if no fractures occur after 150 hours of immersion.

4.5.7 Effect on polyimide insulated wire. Approximately 24 in. (61 cm) of wire conforming to MIL-W-81381/11 shall be formed into a coil. Place the coil in a 4 ounce (118 ml) wide mouth jar. Add to the jar sufficient cleaner to completely cover the coil of wire. Cap the jar and store it at room temperature for 14 days. Concurrently, perform this procedure using distilled water for comparison. At the end of the storage period, remove both coils and rinse thoroughly with tap water at room temperature. Suspend each coil and allow it to drain until completely dry. Each wire shall then be uncoiled and wrapped tightly on a 0.125 in. (3 mm) mandrel noting the appearance of any cracks in the insulation. Each wire shall then be unwrapped and rewrapped in the opposite direction, again noting appearance of cracks. If the test wire shows no more cracks than the comparison wire, it shall be immersed in a 5 percent by weight sodium chloride solution and subjected to a one minute dielectric test of 2,500 volts (root mean square) without breakdown or leakage.

4.5.8 Effect on polysulfide sealants. The effect of the cleaner on polysulfide sealants shall be determined as specified in 4.5.8.1 and 4.5.8.2.

4.5.8.1 Preparation of test specimens. Sealants in accordance with MIL-PRF-81733, Class 1, Grade B, Type II and AMS-S-8802, Class B shall be mixed as specified by their respective manufacturers and pressed into 1/8 inch thick sheet molds. Sealants shall be cured for 14 days at 77 ± 5 °F (25 ± 3 °C) at 50 percent humidity or 48 hours at 140 ± 5 °F (60 ± 3 °C). The cured sealants are the sheet stock from which the specimens for each sealant shall be cut.

4.5.8.2 Test procedure. The Shore A hardness of each sealant shall be measured as specified in ASTM D2240 before exposing it to the cleaner. Two specimens of each sealant shall be immersed in cleaner at room temperature. After 30 minutes, specimens shall be removed, wiped dry and tested within 30 minutes for Shore A hardness.

4.5.9 Cleaning efficiency. Cleaning efficiency shall be tested as specified in 4.5.9.1 and 4.5.9.2.

4.5.9.1 Preparation of test specimens. Steel coupons (321 stainless) 1 by 2 by 0.05 inches (25 by 50 by 1.3 mm) shall be polished with 240 grit aluminum oxide abrasive paper or cloth and solvent wiped with isopropyl alcohol. Coupons shall be weighed (weight = W_1), coated on one side with 20 mg of soil, then reweighed (weight = W_2). The soil shall be either:

- a. MIL-G-21164 (with 10 percent by weight carbon black blended in using a grease working machine to achieve a smooth consistency)
- b. MIL-PRF-83282 (with 10 percent by weight carbon black blended in using a spatula)
- c. MIL-PRF-10924 grease without additions

4.5.9.2 Test procedure. The test specimen shall be immersed and withdrawn from a beaker of the cleaner at a rate of 20 cycles per minute for 5 minutes. The specimen shall then be dried for 10 minutes at 140 ± 4 °F (60 ± 2 °C), cooled to room temperature, and reweighed (weight = W_3). Cleaning efficiency for the cleaner shall be calculated as follows:

$$\% \text{ Cleaning efficiency} = (W_2 - W_3) / (W_2 - W_1) \times 100$$

5. PACKAGING

5.1 Packaging. For acquisition purposes, the packaging requirements shall be as specified in the contract or order (see 6.2). When actual 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 which may be helpful, but is not mandatory.)

6.1 Intended use. The materials covered by this specification are non-aqueous cleaners that are free of hazardous air pollutants and contain a low amount (no more than 25 grams per liter) of volatile organic compounds. Uses include cleaning of aircraft components and ground support equipment. Products may be suitable for other cleaning applications. Type I cleaners are much less volatile than Type II cleaners; however Type II cleaners are somewhat more effective on heavy soils (such as greases and tire residues).

6.2 Acquisition requirements. Acquisition documents should specify the following:

- a. Title, number, and date of the specification
- b. Type required (see 1.2)
- c. Quantity
- d. Conformance test sample size (4.3.1)
- e. Packaging requirements (see 5.1)

6.3 Qualification. With respect to products requiring qualification, awards will be made only for products which are, at the time of award of contract, qualified for inclusion in Qualified Products List QPL-XXXX, whether or not such products have actually been so listed by that date. The attention of the contractors is called to these requirements, and manufacturers are urged to arrange to have the products that they propose to offer to the Federal Government tested for qualification in order that they may be eligible to be awarded contracts or orders for the products covered by this specification. Information pertaining to qualification of products may be obtained from the Commander, Naval Air Warfare Center Aircraft Division, Code 4.3.4.2, Building 2188, Patuxent River, MD 20670-1908.

6.3.1 Storage stability, inspection, and other information. In addition to the qualification test samples, the qualifying activity will request the manufacturer to submit to the qualification activity: (a) a certified test report showing that the material conforms to the requirements of this specification; (b) one copy of the MSDS (see 6.7); (c) certification that the manufacturer's material meets the VOC requirement (see table I).

6.3.1.1 Qualification inspection sample identification. Qualification inspection samples are to be forwarded to the laboratory designated in the letter of authorization (see 6.3) and identified as follows:

QUALIFICATION TEST SAMPLES

Specification MIL-PRF-XXXXX, type I or II (as applicable)

CLEANER, NON-AQUEOUS, LOW-VOC, HAP-FREE

Manufacturer's name and product number

Submitted by (name and date) for qualification testing in accordance with authorization
(reference authorizing letter)

6.4 Retention of qualification. To retain qualification approval of products listed on the Qualified Products List (QPL), the manufacturer will be required to verify by certification to the qualifying activity that its product(s) comply with the requirements of this specification. Unless otherwise specified by the qualifying activity, the time of periodic verification by certification will be in two-year intervals from the date of original qualification. The certification action is initiated by the qualifying activity.

6.5 Conformance rejection and retest. Failure in any conformance inspection will result in the rejection of the batch from which it was obtained and constitutes justification for removal from the qualified products list. Rejected material cannot be resubmitted for acceptance without written approval from the qualification activity (see 6.3). The application for resubmission will contain all details concerning previous rejections and measures taken to correct these deficiencies.

6.6 Lot and batch formation. A lot consists of all of the cleaners manufactured at one time from one batch, forming part of one contract or order, and submitted for acceptance. A batch consists of all cleaners manufactured during one continuous operation.

6.7 Toxicity.

6.7.1 Material Safety Data Sheet (MSDS). An MSDS must be prepared and submitted in accordance with FED-STD-313. The MSDS must also meet the requirements of 29 CFR 1910.1200. The 29 CFR 1910.1200 requires that the MSDS for each hazardous chemical used in an operation must be readily available to personnel using the material. Questions pertinent to the effect(s) of these cleaners on the health of personnel using them should be referred by the procuring activity to the appropriate medical service, who will act as its adviser. Contracting officers will identify the activities requiring copies of the MSDS.

6.7.2 Health/hazard assessment (HHA). The qualifying activity will request the Navy Environmental Health Center (NAVENVIRHLTHCEN) to perform an HHA on the cleaner furnished. Prior to listing on the Qualified Products List, the results of the NAVENVIRHLTHCEN HHA must be deemed acceptable by the qualifying activity. A flowchart for the HHA process can be found as enclosure (1) of BUMEDINST 6270.8. The HHA is a review of the product based on information submitted by the manufacturer, to assess health hazards associated with the handling, application, and use of the product. Sufficient data to permit an HHA of the product is to be provided by the manufacturer to the Commanding Officer, Navy Environmental Health Center, ATTN: Hazardous Materials Department, Industrial Hygiene Directorate, 620 John Paul Jones Circle, Suite 1100, Portsmouth, VA 20378-2103.

6.8 Definitions.

6.8.1 Carcinogens. The Occupational Safety and Health Administration (OSHA) definition of carcinogens is those chemicals / processes appearing in lists 1, 2A, and 2B of the International Agency for Research on Cancer (IARC) 1; substances known to be carcinogenic and occupational exposures associated with a technological process known to be carcinogenic by the

National Toxicology Program (NTP) Report on Carcinogens (latest annual report) 2/; and OSHA regulated carcinogens.

1/ Copies of these volumes may be found in medical libraries or through the World Health Organization, 1211 Geneva 27, Switzerland.

2/ Copies may be obtained from the Public Health Service, National Toxicology Program, Public Information Office, P.O. Box 12233, MD B2-04, Research Triangle Park, NC 27709 or at <http://ntp-server.niehs.nih.gov>.

6.8.2 Hazardous Air Pollutant (HAP). HAP is defined as any substance listed under Section 112 of the Clean Air Act or its modifications. The text of the Clean Air Act, listed pollutants and modifications are kept by the Environmental Protection Agency (EPA) and are accessible through the website: <http://www.epa.gov>.

6.8.3 Volatile organic compound (VOC). VOC is defined in 40 CFR Part 51.100.

6.9 Subject term (key word) listing.

Cleaning
Cleaning compound
Cleaning efficiency
Miscibility
Soil
Solvent

Custodians:
Army- AT
Navy – AS
Air Force – 68

Preparing activity:
Navy – AS
(Project 6850-2007-002)

NOTE: The activities listed above were interested in this document as of the date of this document. Since organizations and responsibilities can change, you should verify the currency of the information above using the ASSIST Online database at <http://assist.daps.dla.mil>.