METRIC

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PERFORMANCE SPECIFICATION

CLEANING COMPOUND, DECONTAMINATING (FOR SOILED AND RADIOACTIVE CONTAMINATED SURFACES)

This specification is approved for use by all departments and agencies of the Department of Defense.

1. SCOPE. This specification establishes the requirements for a decontaminating cleaning compound for soiled and radioactive contaminated surfaces that is soluble in water, hard water, and sea water (see 6.1).

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 the documents cited in sections 3 and 4 of this specification, whether or not they are listed.

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 (see 6.2).

Comments, suggestions, or questions on this document should be addressed to Defense Supply Center Richmond, ATTN: DSCR-VEB, 8000 Jefferson Davis Highway, Richmond, VA 23297-5616 or e-mailed to STDZNMGT@dla.mil. Since contact information can change, you may want to verify the currency of this address information using the ASSIST database at http://assist.daps.dla.mil.

DEPARTMENT OF DEFENSE SPECIFICATIONS

MIL-PRF-680	- Degreasing Solvent.
MIL-PRF-5425	- Plastic Sheet, Acrylic, Heat Resistant.
MIL-DTL-5541	- Chemical Conversion Coating on Aluminum and Aluminum Alloys.
MIL-C-8514	- Coating Compound, Metal Pretreatment, Resin-Acid (ASG).
MIL-PRF-22750	- Coating, Epoxy, High Solids.
MIL-PRF-23377	- Primer Coatings; Epoxy, High Solid.
MIL-PRF-81352	- Coating, Aircraft, Touch-Up.

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

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 (see 6.2).

ASTM INTERNATIONAL

ASTM B 187/B 187M	- Copper Bar, Bus Bar, Rod and Shapes, Standard Specification for.
ASTM B 272	- Copper Flat Products with Finished (Rolled or Drawn) Edges (Flat Wire and Strip), Standard Specification for.

(Copies of these documents are available online at http://www.astm.org/ or from ASTM International, 100 Barr Harbor Drive, P.O. Box C700, West Conshohocken, PA 19428-2959.)

SOCIETY OF AUTOMOTIVE ENGINEERS (SAE)

SAE AMS-QQ-A-250/4	- Aluminum Alloy 2024, Plate and Sheet.
SAE AMS-QQ-A-250/5	- Aluminum Alloy Alclad 2024, Plate and Sheet.
SAE AMS-QQ-P-416	- Plating, Cadmium (Electrodeposited).
SAE AMS-M3171	- Magnesium Alloy, Process for Pretreatment and Prevention of Corrosion on.
SAE AMS 4375	- Sheet and Plate, Magnesium Alloy 3.0Al - 1.0Zn - 0.20Mn (AZ31B-0) Annealed and Recrystallized.
SAE AMS 4376	- Plate, Magnesium Alloy 3.0 Al - 1.0Zn - 0.20Mn (AZ31B-H26) Cold Rolled and Partially Annealed.
SAE AMS 4377	- Sheet and Plate, Magnesium Alloy 3.0Al - 1.0Zn - 0.20Mn (AZ31B-H24) Cold Rolled, Partially Annealed.

SAE AMS 5046	- Carbon Steel, Sheet, Strip, and Plate (SAE 1020 and 1025) Annealed.
SAE AMS 5510	- Steel, Corrosion and Heat Resistant, Sheet, Strip and Plate 18Cr - 10.5Ni - 0.40Ti (SAE 30321) Solution Heat Treated.
SAE AMS 5512	- Steel, Corrosion and Heat Resistant, Sheet, Strip, and Plate 18Cr - 10.5Ni - 0.80Cb (SAE 30347) Solution Heat Treated.
SAE J 1966	- Oil, Lubricating, Aircraft Piston Engine (Nondispersant Mineral Oil).

(Copies of these documents are available online at http://www.sae.org/ or from SAE International, 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 Physical form. When tested as specified in 4.3.1, the raw materials used in the manufacture of this cleaning compound shall be capable of being assembled and processed to produce a homogeneous mixture free of lumps and foreign material.

3.2 Solubility in distilled water. When tested as specified in 4.3.2, the cleaning compound shall dissolve readily in distilled water producing no more than a slight cloudiness. If the extent of the cloudiness is questionable, the volume of sediment, after centrifuging, shall be not more than 0.05 percent.

3.3 Stability in distilled water. After being subjected to temperatures of 4 ± 1 ºC and 98 ± 1 ºC for 10-minute periods as specified in 4.3.3, the cleaning compound-distilled water solution shall show no sign of separation, sedimentation, gelling or noticeable change in viscosity, and only a slight cloudiness. If the extent of the cloudiness is questionable, the volume of sediment, after centrifuging, shall be not more than 0.05 percent.

3.4 Solubility in synthetic hard water. When tested as specified in 4.3.4, the volume of sediment in the cleaning compound-synthetic hard water solution shall be not more than 0.8 percent.

3.5 Solubility in synthetic sea water. When tested as specified in 4.3.5, the volume of sediment in the cleaning compound-synthetic sea water solution shall be not more than 7.0 percent.

3.6 pH. When tested as specified in 4.3.6, the pH of the cleaning compound-distilled water solution shall be not less than 8.0 nor more than 10.0.

3.7 Total alkalinity. When tested as specified in 4.3.7, the total alkalinity of the cleaning compound, calculated as Na_2O, shall be not more than 21 percent.

3.8 Surface tension. When tested as specified in 4.3.8, the surface tension of the cleaning compound test solutions shall conform to the requirements of table I.

TABLE I. Surface tension.

Cleaning compound dissolved in	Surface tension, maximum (in Newtons per meter)
Distilled water	3.4×10^{-2}
Synthetic hard water	3.2×10^{-2}
Synthetic sea water	3.2×10^{-2}

3.9 Interfacial tension. When tested as specified in 4.3.9, the interfacial tension between a layer of white paraffin oil and the specified cleaning compound test solution shall conform to the requirements of table II.

TABLE II. Interfacial tension.

Cleaning compound dissolved in	Interfacial tension, maximum (in Newtons per meter)
Distilled water	4×10^{-3}
Synthetic hard water	4×10^{-3}
Synthetic sea water	3×10^{-3}

3.10 Radioactive soil removal. When tested as specified in 4.3.10, the cleaning compound-distilled water solution shall remove not less than 20 percent of the radioactivity from the soil retaining plugs.

3.11 Cleaning ability. When tested as specified in 4.3.11, the cleaning compound test solutions shall completely remove an oil-carbon mixture from the test panels.

3.12 Rinsing ability. When tested as specified in 4.3.12, the cleaning compound shall be completely removed from the test panels after rinsing with distilled water, synthetic hard water, or synthetic sea water except that after rinsing with synthetic hard water a slight film on the panels shall be acceptable.

3.13 Corrosiveness. When tested as specified in 4.3.13, the cleaning compound-distilled water solution shall cause no discoloration, corrosion, chemical attack, or any other deterioration of the test panels except that a slight streaking of the aluminum alloy panel and a slight dulling of the Alclad aluminum alloy panel shall be acceptable.

3.14 Effect on painted surfaces. When tested as specified in 4.3.14, the cleaning compound test solutions shall cause no softening, blistering, discoloration, cracking, or any other deterioration of the epoxy-coated or lacquered test panels.

3.15 Effect on acrylic-base plastics. When tested as specified in 4.3.15, the cleaning compound test solutions shall cause no crazing, chemical attack, or any other deterioration of the stressed acrylic panels.

4. VERIFICATION

4.1 Inspection conditions. Unless otherwise specified herein, all tests shall be performed at a laboratory temperature of 23 ºC ± 1 ºC and a relative humidity of 50 percent ± 4 percent.

4.2 Conformance inspection. The characteristics shown in 3.1 through 3.15, when tested in accordance with 4.3, shall constitute minimum inspections to be performed by the supplier prior to government acceptance or rejection. The absence of any inspection requirements in the specification shall not relieve the contractor of the responsibility of ensuring that all products or supplies submitted to the government for acceptance comply with all requirements of the contract.

4.2.1 Sampling for conformance inspection. For the purpose of sampling, a lot shall consist of a manufacturer's batch. If the material cannot be identified by batch, a lot shall consist of not more than 4,500 kilograms (kg) of cleaning compound. A batch is defined as the end product of all raw materials mixed or blended in a single operation.

4.2.2 Samples for test. Two 2-kg samples of cleaning compound shall be selected at random from each lot, either during or after the filling operation.

4.3. Test methods.

4.3.1 Physical form. When visually inspected, the raw materials used in the manufacture of the cleaning compound shall conform to the requirements of 3.1.

4.3.2 Solubility in distilled water. Add 43 grams (g) of the cleaning compound to 6 liters (L) of distilled water and mix thoroughly. After allowing to stand undisturbed for 5 minutes, observe the solution for cloudiness. If the extent of cloudiness is questionable, the volume of the sediment shall be determined as specified in 4.3.2.1.

4.3.2.1 Sediment. One hundred milliliters (mL) of the cleaning compound test solution shall be added to each of two 100 mL graduated centrifuge tubes, graduated for reading to 0.1 mL. Then the tubes shall be centrifuged at a speed of 1,500 revolutions per minute (rpm) to 1,800 rpm for 15-minute periods until the volume of sediment in each tube becomes constant. The sediment volumes shall be read to 0.1 mL and the average of the two results shall be reported. The diameter of swing (tip to tip of the whirling tubes) of the centrifuge shall be between 40.6 centimeters (cm) and 45.7 cm.

4.3.3 Stability in distilled water. Add 50 mL of the cleaning compound-distilled water solution specified in 4.3.2 to each of two test tubes. Cool one tube to 4 ºC ± 1 ºC and heat the other to 98 ºC ± 1 ºC. After 10 minutes at these temperatures, condition at room temperature for 18 hours and then observe each tube for any evidence of separation, sedimentation, gelling or noticeable change in viscosity, or cloudiness. If the extent of cloudiness is questionable, the volume of sediment shall be determined as specified in 4.3.2.1.

4.3.4 Solubility in synthetic hard water. Prepare synthetic hard water by dissolving 3.0 g of calcium acetate monohydrate, and 2.1 g of magnesium sulfate heptahydrate, in 8 L of distilled water. Add 43 g of the cleaning compound to 6 L of the synthetic hard water and mix thoroughly. Allow the solution to remain undisturbed for 5 minutes then determine the volume of sediment as specified in 4.3.2.1.

4.3.5 Solubility in synthetic sea water. The synthetic sea water shall be prepared as specified in table III. Add 43 g of the cleaning compound to 6 L of the synthetic sea water and mix thoroughly. Allow the solution to remain undisturbed for 5 minutes then determine the volume of sediment as specified in 4.3.2.1.

TABLE III. Synthetic sea water.

Ingredient	Quantity in grams
Sodium chloride	150.0
Magnesium chloride, hexahydrate	66.0
Calcium chloride, dihydrate	9.6
Sodium sulfate, anhydrous	24.0
Add distilled water to make 6 L of solution	--

4.3.6 pH. The cleaning compound-distilled water test solution specified in 4.3.2 shall be tested with a pH electrometer having a sensitivity and readability of 0.05.

4.3.7 Total alkalinity.

4.3.7.1 Indicator solution. Grind a 0.1 g sample of bromophenol blue in a mortar with 1.5 mL of 0.1 N sodium hydroxide. Transfer this mixture to a volumetric flask, dilute to 250 mL with distilled water, and adjust to neutrality.

4.3.7.2 Procedure. Add 5 drops of the indicator solution prepared in 4.3.7.1 to a 100 mL aliquot of the cleaning compound-distilled water solution specified in 4.3.2. A blue coloration should develop. Titrate the solution with 0.5 N hydrochloric or sulfuric acid to the first appearance of yellow. Calculate the total alkalinity as follows:

$$\text{Percent total alkalinity (as } Na_2O) = \frac{3.1(A)(N)}{0.720}$$

where A = mL of acid
N = normality of acid

4.3.8 Surface tension.

4.3.8.1 Equipment. Surface tension measurements shall be made with an instrument capable of reading to 1×10^{-4} Newtons per meter (N/m) with a precision of $\pm 5 \times 10^{-5}$ N/m.

4.3.8.2 Measurements. Surface tension measurements shall be made on a 50 mL portion of each of the cleaning compound test solutions specified in 4.3.2, 4.3.4, and 4.3.5.

4.3.9 Interfacial tension. Using the apparatus specified in 4.3.8.1, interfacial tension measurements shall be made after a portion of each of the cleaning compound test solutions specified in 4.3.2, 4.3.4, and 4.3.5 have been covered with an approximately equal volume of white paraffin oil.

4.3.10 Radioactive soil removal.

4.3.10.1 Radioactive soil. A partial formulation of the radioactive soil shall be made as specified in table IV. Heat the mixture in a porcelain crucible at a temperature of 1,000 ˚C to 1,200 ºC for 3 hours to convert the ingredient metals to their oxides. Cool to room temperature and transfer to a stainless steel ball mill that is one-half filled with stainless steel balls. Add 50 g of uranium oxide and 70 mL of distilled water to the mill. (Uranium oxide can be prepared by heating uranium acetate at 1,000 ˚C to 1,200 ºC in an electric furnace.) After letting the mill run for 3 hours, transfer the mixture to a beaker. Rinse the mill and balls with distilled water, adding the washings to the beaker. Continue rinsing the mill until the washings, after evaporation, exhibit no appreciable radiation as measured by a Geiger-Mueller counter. Reduce the volume of the soil slurry to 1 L by evaporation. Add 50 g of uranyl nitrate to the slurry and mix thoroughly.

4.3.10.2 Soil retaining plugs. Soil retaining plugs shall be constructed from Alclad 2024 aluminum alloy and be a dished planchet measuring 25.4 millimeters (mm) in diameter X 7.9 mm in height. The plugs shall be cleaned, chemically treated, and coated with the lacquer system specified in 4.3.14.1.

4.3.10.3 Application of radioactive soil. Place a tapered stainless steel cylinder with an inside diameter tapering from 1-1/4 inch to 3/4 inch over each of five soil retaining plugs prepared as specified in 4.3.10.2. The radioactive soil slurry prepared in 4.3.2 shall be then shaken vigorously and a small portion of it transferred to a graduated cylinder fitted with a ground glass stopper. Dilute the slurry with 4 times its volume of distilled water. After shaking vigorously, transfer 0.5 mL of the diluted slurry to each plug by means of a pipet. Evaporate the water from each plug using an infra-red lamp under a hood. Remove the cylinder from the plugs after the major portion of the water has been evaporated and continue heating until the plugs are dry.

TABLE IV. Radioactive soil (partial formulation).

Ingredients	Weight in grams
Lanthanum nitrate	16.93
Molybdenum oxide	16.40
Ferric oxide	11.11
Nickel chloride	0.08
Mercuric oxide	0.03
Stannous chloride	0.38
Tellurium dioxide	7.41
Antimony trioxide	36.48
Cerium oxide	10.69
Arsenic oxide	0.33
Cobalt nitrate	0.08
Lead oxide	0.08
Zinc oxide	Trace
Selenious acid	Trace

4.3.10.4 Procedure. Place the five test plugs containing the dry radioactive soil prepared in 4.3.10.3 in a liter beaker with 700 mL of distilled water. Position a glass rod attached to an electric stirrer in the beaker so that its end is 2.5 cm above the plugs. Stir the contents of the beaker for 5 minutes with the speed of the stirrer adjusted so that the plugs do not rotate. Remove the plugs, wash off in a strong stream of distilled water from a wash bottle, and dry in a fume hood under an infra-red heat lamp. Radioactivity measurements (R_a) shall then be made on each plug using an end window tube Geiger-Mueller counter. After the measurements have been taken, place the five plugs in a 1 L beaker with 700 mL of the cleaning compound-distilled water solution specified in 4.3.2. Arrange the stirrer as described above and stir for 30 minutes. Remove the plugs and rinse in a strong stream of distilled water from a wash bottle. Dry in a fume hood under an infra-red heat lamp. Radioactivity measurements (R_b) shall then be taken on each plug. Calculations shall be made as follows:

$$\text{Percent radioactivity removal} = \frac{(Ra-Rb)100}{R_a}$$

where Ra = Radiation count, corrected for background, after cleaning with distilled water

Rb = Radiation count, corrected for background, after cleaning with the cleaning compound-distilled water solution

Note: The radiation count shall be recorded as counts per second.

4.3.11 Cleaning ability. An epoxy-coated and a lacquered panel shall be prepared as specified in 4.3.14.1. Observe each panel under an ultraviolet light for fluorescence. Replace any panel that shows any sign of fluorescence. Spread two drops of oil conforming to SAE J 1966 evenly over each panel. Then sift carbon black through cheesecloth and spread evenly over each panel. Turn the panels over and tap lightly to remove excess carbon. Pour 10 mL of the cleaning compound-distilled water solution specified in 4.3.2 onto each panel and spread evenly over the soiled surface. Place each panel in a horizontal position in a tray. Clean each panel by applying another 10 mL portion of the cleaning compound-distilled water solution and rubbing with absorbent cotton. Flood the panels once again with cleaning compound-distilled water solution and rinse thoroughly with distilled water. Allow to dry at laboratory room temperature at an angle of 45 degrees from the vertical. Observe the dried panels for the presence of oil as evidenced by iridescence or any increase in the gloss of the panels. Observe the panels under the ultraviolet light for fluorescence resulting from any residual oil on the panels. Repeat this test using the cleaning compound-synthetic hard water solution specified in 4.3.4 with synthetic hard water rinse and the cleaning compound-synthetic sea water solution specified in 4.3.5 with synthetic sea water rinse.

4.3.12 Rinsing ability. An epoxy-coated and a lacquered panel shall be prepared as specified in 4.3.14.1. Flood each panel with the cleaning compound-distilled water solution specified in 4.3.2 and allow to drain and air dry at an angle of 45 degrees from the vertical. Then place a 250-watt infra-red lamp 30 cm from the panels. After exposing the panels to the heat of the lamp for 1 hour, rinse the panels thoroughly with distilled water. Observe for any indication of a cleaning compound residue remaining on the panels. Repeat this test using cleaning compound-synthetic hard water solution specified in 4.3.4 and the cleaning compound-synthetic sea water solution specified in 4.3.5, rinsing respectively with synthetic hard water and synthetic sea water.

4.3.13 Corrosiveness.

4.3.13.1 Test panels. Test panels measuring 0.127 cm X 2.5 cm X 15 cm shall be prepared as specified in table V.

4.3.13.2 Procedure. Immerse the six test panels in the cleaning compound-distilled water solution specified in 4.3.2. Do not allow the panels to contact each other. After a 1-hour immersion, remove the panels and allow to remain flat in a horizontal position for 24 hours. After rinsing thoroughly with distilled water, examine each panel for discoloration, corrosion, chemical attack, or any other sign of deterioration.

4.3.14 Effect on painted surfaces. An epoxy-coated and a lacquered panel shall be prepared as specified in 4.3.14.1. Immerse both panels in the cleaning compound-distilled water solution specified in 4.3.2. After a 45 minute immersion, remove the panels and allow to drain for 5 minutes at an angle of 45 degrees from the vertical. Rinse the panels thoroughly with distilled water and examine the painted surface for softening, blistering, discoloration, cracking, or any other sign of deterioration. Repeat this test, immersing a similar set of panels in the cleaning compound-synthetic hard water solution specified in 4.3.4 and in the cleaning compound-synthetic sea water solution specified in 4.3.5.

TABLE V. Test panels.

Panel	Specification
Aluminum alloy 2024, polished[1]	SAE AMS-QQ-A-250/4
Aluminum alloy, Alclad 2024, polished[1]	SAE AMS-QQ-A-250/5
Copper, polished	ASTM B 187 ASTM B 272
Steel, polished	SAE AMS 5510 SAE AMS 5512
Magnesium alloy[2]	SAE AMS 4375 SAE AMS 4376 SAE AMS 4377
Steel[3]	SAE AMS 5046

[1]Panels shall be polished by means of a buffing wheel and buffing compound.
[2]Treated in accordance with SAE AMS M3171.
[3]Cadmium plated in accordance with SAE AMS-QQ-P-416, type I.

4.3.14.1 Painted test panels. Clean 7.6 cm X 15 cm panels conforming to Alclad 2024 aluminum alloy, by brushing on a 50/50 mixture of an aluminum cleaning compound and mineral spirits conforming to MIL-PRF-680, type I. Allow the mixture to react with the panels for 15 minutes to 30 minutes and then rinse thoroughly with distilled water. After the panels have dried, apply by brush or dip one coat of chemical film conforming to MIL-DTL-5541. After the chemical film has air dried for 24 hours, spray with one coat of wash primer conforming to MIL-C-8514 and air dry 45 minutes to a dry film thickness of 5.1 micrometers (µm) to 7.6 µm. The panels shall then be sprayed with either the epoxy or lacquer system as specified in table VI or VII.

TABLE VI. Coating - epoxy system.

Coating	Specification	Air dry time	Dry film thickness (in µm)
Primer	MIL-PRF-23377	1 hour	12.7 - 20.3
White epoxy	MIL-PRF-22750	1 hour	A thin mist coat
White epoxy	MIL-PRF-22750	7 hours between coats; final dry 8 days	35.6 - 45.7

TABLE VII. Coating - lacquer system.

Coating	Specification	Air dry time	Dry film thickness (in µm)
Primer		45 minutes	7.5 - 10.2
Sea blue lacquer	MIL-PRF-81352	45 minutes between coats; final dry of 24 hours	20.3 - 30.5

4.3.15 Effect on acrylic-base plastics. Acrylic plastic conforming to MIL-PRF-5425 shall be cut into 2.5 cm X 17.8 cm X 0.64 cm test specimens. Clean the plastic strips with the use of aliphatic naphtha that is suitable for use on acrylic plastic and condition at room temperature for at least 96 hours prior to use. Set up four plastic strips as class 1 levers with the fulcrum 5 cm from the clamped end with a load of 2.4 kg suspended 10 cm from the fulcrum. This load produces an outer fiber stress of 13,780 kilopascals (kPa) at the fulcrum. After 30 minutes, and while the strips remain under stress, examine for crazing as follows: Place a source of light under the strips and examine the fulcrum area with a 7-power magnifier at such an angle that light will be reflected from any cracks or fissures that may be present. Use the light source only during examination to prevent overheating of the plastic strips. Remove any strip that shows any sign of crazing. While the strips are under stress, place 10 drops of cleaning compound-distilled water solution specified in 4.3.2 at the fulcrum of each of three strips (the fourth is a control). Place a 2.5 cm X 3.8 cm glass slide over the liquid with its long axis parallel to that of the plastic strip. After the first application of test solution, apply an additional 2 drops of solution at intervals of 7 hours, 24 hours, and 31 hours to compensate for evaporation losses. Forty-eight hours after the first application of the test solution, and while the strips are under stress, examine for crazing as described above. All cracks at the edges of a strip shall be noted as "edge crazing" and disregarded unless they extend across the entire width of the strip. If the control crazes, repeat this test using four different test specimens. The strips shall also be examined for signs of chemical attack or any other deterioration. Repeat this test using the cleaning compound-synthetic hard water solution specified in 4.3.4 and the cleaning compound-synthetic sea water solution specified in 4.3.5.

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 command. 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.

6.1.1 Application. The cleaning compound, after dissolving in water, hard water, or sea water, is intended for use in the cleaning of finished and unfinished aircraft surfaces that are soiled.

6.1.2 Military unique. The cleaning compound is specifically designed to be used in ten different weapon systems to clean military aircraft surfaces that are contaminated with radioactive material. No commercial equivalent exists.

6.2 Acquisition requirements. Acquisition documents should specify the following:

a. Title, number, and date of this specification.
b. The specific issue of individual documents referenced (see 2.2.1 and 2.3).
c. Packaging (see 5.1).

6.3 Composition. Table VIII is the suggested composition of the cleaning compound.

TABLE VIII. Composition.

Ingredient	Percent by weight
Sodium pyrophosphate (anhydrous)	10
Sodium tripolyphosphate (anhydrous)	30
Sodium phosphate, tribasic (anhydrous)	20
Non-ionic detergent	10
Methylcelluose (33-56 percent active ingredient)	5
Sodium xylenesulfonate	5
Sodium hexametaphosphate	10
Borax	10

6.4 Subject term (key word) listing.

borax
methylcelluose
non-ionic detergent
sodium hexametaphosphate
sodium phosphate, tribasic
sodium pyrophosphate
sodium tripolyphosphate
sodium xylenesulfonate

6.5 Changes from previous issue. Marginal notations are not used in this revision to identify changes with respect to the previous issue due to the extent of the changes.

Custodian:
Navy - AS

Preparing Activity:
DLA - GS3

(Project 6850-2007-001)

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 database at http://assist.daps.dla.mil.