**INCH POUNDS**

 **GL/PD 10-03A**

 **July 20, 2022**

 **DRAFT**

**PURCHASE DESCRIPTION**

**MODULAR LIGHTWEIGHT LOAD-CARRYING EQUIPMENT (MOLLE)**

**WATERPROOF PACK LINER**

This document is approved for use by all Departments and Agencies of the Department of Defense (DoD).

1. SCOPE

 1.1 Scope. This specification covers the Modular Lightweight Load-carrying Equipment (MOLLE) Waterproof Pack Liner. The system is needed to provide a rucksack liner that keeps contents dry.

 1.2 Classification. The MOLLE Liner will be available in the following types and classes:

 Type I – MOLLE Large

 Type II – MOLLE 4000

 - 1 (with zipper)

 - 2 (without zipper)

 Type III – MOLLE Medium

 - 1 (with zipper)

 - 2 (without zipper)

Class 1 – Foliage Green 504

Class 2 – Tan 499

Class 3 – Coyote Brown 498

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.

 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.

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| Comments, suggestions, or questions on this document should be addressed to: U.S. Army Natick Research, Development and Engineering Center, Natick MA. ATTN: John Kirk  |

AMSC N/A FSC 8465

DEPARTMENT OF DEFENSE SPECIFICATIONS

 MIL-PRF-63460 -Lubricant, Cleaner and Preservative for Weapons and Weapon Systems

(Copies of this document are available online at <https://assist.daps.dla.mil/quicksearch/>

or from the Standardization Document Order Desk, 700 Robbins Avenue, Building 4D, Philadelphia, PA 19111-5094.)

BUREAU OF ALCOHOL, TOBACCO AND FIREARMS, DEPARTMENT OF THE TREASURY

 Formulas for Denatured Alcohol (27 CFR Part 21)

(Applications for copies should be addressed to the Bureau of Alcohol, Tobacco and Firearms, Department of the Treasury, 1200 Pennsylvania Ave, Washington, DC 20226.)

ENVIRONMENTAL PROTECTION AGENCY

 Regulations for the Enforcement of the Federal Insecticide, Fungicide and Rodenticide

 Act (FIFRA)(40 CFR Part 162)

(Copies are available online at <http://www.epa.gov/pesticides> or from the Environmental Protection Agency, 1200 Pennsylvania Avenue, N.W., Washington, DC 20460.)

 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 or contract.

DRAWINGS

U.S. ARMY SOLDIER SYSTEMS CENTER

2-3-0592 Type I, Waterproof, Pack Liner, Assembly, MOLLE Large

2-6-1387 Type II, Waterproof, Pack Liner, Assembly, MOLLE 4000

2-6-1389 Type III, Waterproof, Pack Liner, Assembly, MOLLE Medium

2-3-0632 Single Bar Side Release Fastener, 1-inch

2-3-0633 1” D-Ring Single Bar

2-3-0634 Air Purge Valve

2-3-0635 Plastic Zipper Extruded

2-3 0636 MOLLE Liner Repair Kit

(Copies of drawings are available from the U.S. Army Natick Research, Development and Engineering Center, Natick Soldier Center, ATTN RDNS-WPW-C, Natick, MA 01760.)

(Copies of specifications, standards and drawings required by contractors in connection with specification procurement functions should be obtained from the procuring activity or as directed by the Contracting Officer.)

 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 ASSOCIATION OF TEXTILE CHEMISTS AND COLORISTS (AATCC)

 AATCC Test Method 8 - Colorfastness to Crocking: AATCC Crockmeter Method

 AATCC Test Method 20 - Fiber Identification Qualitative

 AATCC Test Method 70 - **Water Repellency: Tumble Jar Dynamic Absorption Test**

 AATCC Test Method 107 – Colorfastness to Water

 AATCC Evaluation Procedure 8, AATCC 9 Step Chromatic Transference Scale Rating

 AATCC Evaluation Procedure 9, Visual Assessment of Color Difference of Textiles

(Copies of are available on line at <http://www.aatcc.org/> or from the American Association of Textile Chemists and Colorists, P.O. Box 12215, Research Triangle Park, NC 27709-2215.)

AMERICAN SOCIETY FOR QUALITY

 ANSI/ASQ Z1.4 - Sampling Procedures and Tables for Inspection by Attributes

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

ASTM INTERNATIONAL

 ASTM D 751 - Standard Test Methods for Coated Fabrics

 ASTM D 1059 - Standard Test Method for Yarn Number Based on Short-length

 Specimens

 ASTM D 1424 - Standard Test Method for Tearing Strength of Fabrics by Falling-

 Pendulum Type (Elmendorf) Apparatus

 ASTM D 3775 - Standard Test Method for Warp (End) and Filling (Pick) Count of

 Woven Fabrics

 ASTM D 3776 - Standard Test Methods for Mass Per Unit Area (Weight) of Fabric

 ASTM D 3886 - Standard Test Method for Abrasion Resistance of Textile Fabrics

 (Inflated Diaphragm Apparatus)

 ASTM D 5034 - Standard Test Method for Breaking Strength and Elongation of

 Textile Fabrics (Grab Test)

 ASTM F 392 - Standard Test Method for Flex Durability of Flexible Barrier Materials

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

TAPPI

 TAPPI T451 -Flexural Properties of Paper (Clark Stiffness)

(Copies of documents are available online at [http://www.tappi.org](http://www.tappi.org/) or from TAPPI 15 Technology Parkway South Norcross, GA 30092)

 2.4 Order of precedence. Unless otherwise noted herein or in the contract, 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 inspection. When specified in the contract or purchase order, a sample shall be subjected to a first article inspection.

 3.2 End item requirements.

 3.2.1 Empty weight. The liner when empty shall weigh no more than 1.1 pounds when tested as specified in Table VI.

 3.2.2 Resistance. The pack liner shall be resistant to petroleum, oils and lubricants (POL's), corrosion, fungus, insect repellant, and saltwater.

 3.2.3 Service life The system shall have a service life of a minimum 120 continuous days of field use.

 3.2.4 Repair kit. The repair kit shall conform to drawing 2-3-0636

 3.2.5 First article. When specified, a sample representing a complete MOLLE Liner shall be subjected to first article inspection in accordance with 4.2.

 3.2.6 Standard sample. The finished MOLLE Liner shall match the standard samples for shade and appearance in accordance with 3.2.6.1 and shall match the standard sample with respect to all characteristics for which the standard sample is referenced when tested as specified in Table VI.

 3.2.6.1 Visual shade matching (all Classes). The color and appearance of the MOLLE Liner shall match the standard sample when tested as specified in Table VI.

 3.3 Materials and components. The contractor shall select the materials that meet all applicable requirements specified herein. Use of recycled material is encouraged when practical, provided the requirements of this specification are met (see 6.4).

3.3.1 Base fabric. The base fabric of the liner shall meet the spectral reflectance requirements of Table I and the physical requirements of Table II, when tested as specified in 4.3 and Table VI. The color shall be Foliage Green 504 for Class 1, Tan 499 for Class 2 and Coyote Brown 498 for Class 3.

TABLE I. Spectral reflectance requirements

|  |  |  |  |
| --- | --- | --- | --- |
| Wavelength,Nanometers (nm) | Class 1Foliage Green 504 | Class 2Tan 499 | Class 3Coyote Brown498 |
|  | Min. | Max. | Min. | Max. | Min | Max |
| 600 | 8 | 26 | 8 | 20 | 8 | 20 |
| 620 | 8 | 26 | 8 | 20 | 8 | 20 |
| 640 | 8 | 28 | 8 | 22 | 8 | 22 |
| 660 | 10 | 30 | 8 | 24 | 8 | 24 |
| 680 | 10 | 34 | 12 | 24 | 12 | 24 |
| 700 | 12 | 38 | 12 | 34 | 12 | 34 |
| 720 | 16 | 42 | 16 | 42 | 16 | 42 |
| 740 | 16 | 46 | 22 | 46 | 22 | 46 |
| 760 | 18 | 48 | 30 | 50 | 30 | 50 |
| 780 | 18 | 48 | 34 | 54 | 34 | 54 |
| 800 | 20 | 50 | 36 | 56 | 36 | 56 |
| 820 | 22 | 54 | 38 | 58 | 38 | 58 |
| 840 | 24 | 54 | 38 | 58 | 38 | 58 |
| 860 | 26 | 56 | 40 | 60 | 40 | 60 |

TABLE II. Physical requirements of the base fabric (All Classes)

|  |  |
| --- | --- |
| Characteristic | Requirement |
| Weight, oz./sq.yd. Minimum  Maximum | 6.0 7.5  |
| Breaking strength, pounds, (minimum) Warp Filling | 150150 |
| Tearing strength, pounds, (minimum) Warp Filling | 3.02.5 |
| Stiffness, centimeters, (maximum) at 70°F at -40°F | 1015 |
| Dynamic Absorption, percent % (maximum) | 4 |
| Blocking Rating, (maximum) | 2 |

TABLE II. Physical requirements of the base fabric (Classes 1 & 2) - Continued

|  |  |
| --- | --- |
| Characteristic | Requirement |
| Hydrostatic Resistance, pounds per square inch, (minimum) Initial After cold crack (-20°F) After accelerated aging After flex fatigue 1/ After weapon lubricant contamination 2/ After strength of coating 3/ After diethyltoluamide contamination 2/ After abrasion  | 150120120120120120120120 |

 1/ After 1000 flex cycles using ASTM F 392

 2/ After being contaminated with 3 drops over 16 hours.

 3/ Minimum rating 2 using ASTM D 751

 3.3.2 Double Coated Nylon. The double coated nylon shall be 400 denier nylon scrim and shall meet the requirements of Table III when tested as specified in 4.3. The coating shall be black and shall meet the requirements of Table III when tested as specified in 4.3.

TABLE III. Physical requirements of double coated nylon fabric

|  |  |
| --- | --- |
| Characteristic | Requirement |
| Weight, oz/sq yd | 16.0 (+/-1.0) |
| Yarns per inch (minimum) Warp Fill | 6040 |
| RF Weld Adhesion , pound per square inch (psi), (minimum) 1/Breakaway (peak)Strip (peel) | 1515 |
| Colorfastness of coating To water Crocking ( wet and dry) | 4-54-5 |
| Tear Strength, pounds (minimum) Warp Fill | 1412 |
| Breaking Strength , pounds (minimum) Warp Fill | 320275 |
| Puncture Resistance, pounds (minimum) | 80 |
| Hydrostatic Resistance After 10 minutes at 5 pounds per square inch (psi) | No leaks |

 1/ The RF weld adhesion of embossed side to the smooth side and the smooth side to the

 smooth side.

 3.3.3 Weatherproof barrier fastener. The extruded plastic zipper shall conform to drawing 2-3-0635 and its requirements unless otherwise noted in the contract or solicitation.

 3.3.4 Air purge valve. The air purge valve shall conform to drawing 2-3-0634 and its requirements unless otherwise noted in the contract or solicitation.

 3.3.5 One inch side-release buckle. The side release buckle shall conform to drawing 2-3-0632 and its requirements unless otherwise noted in the contract or solicitation.

 3.3.6 One inch D-ring. The one inch D-ring shall conform to drawing 2-3-0633 and its requirements unless otherwise noted in the contract or solicitation.

 3.4 Identification and marking. The size and location of the US marking shall be indicated on the drawing. Identification, contract number, and instructions shall be printed legible and shall not show off-setting, smearing or bleeding. All printing shall be in capitals except where otherwise indicated on the drawing. Size of characters shall be approximately 1/8 inch for capitals and 3/32 inch for lower case. Bold capitals shall be approximately 1/4 inch.

4. VERIFICATION

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

 a) First article inspection (see 4.2)

1. Conformance inspection (see 4.3)

 4.2 First article inspection. When a first article is required (see 3.1 and 6.2), it shall be

examined for the defects specified in Tables IV and V.

 4.3 Conformance inspection. Conformance inspection shall be in accordance with 4.3.1, 4.3.2 4.3.3 and 4.3.4. Unless otherwise specified, sampling for inspection shall performed in accordance with ANSI/ASQC Z1.4, except where otherwise indicated.

 4.3.1 Visual examination of MOLLE Liner. The MOLLE liner shall be examined for the visual defects listed in Table IV. The lot size shall be expressed as individual units. The sample unit shall be one complete liner.

TABLE IV. End item visual defects

|  |  |
| --- | --- |
|  | Classification |
| Examine | Defect | Major | Minor |
| Fabric | Hole, cut, tear, delamination,Shade bar or abrasion mark.Defective or partially omitted coating | 101 | 201202 |
| Hardware | Broken or malformed, failing to serve intended purpose, corroded area, burr or sharp edge.Area of partial or no finish.Any required component improperly installed causing failure to serve intended purpose.Not assembled as specified.Size or type not as specified.Shade not as specified. | 102103104105 | 203204 |
| Component and assembly | Any component part omitted or not as specified or any operation omitted or not as specified (unless otherwise classified herein).Burn marks, Any mend, patch, splice or other unauthorized repair. | 106107108 |  |
| Cleanness | Grease, oil, dirt or ink stains clearly noticeable. |  | 205 |
| Location markings | Printed marking more than 1/32 inch in width or not covered by component part. |  | 206 |
| Markings: US identification and instructions | Omitted, incorrect, illegible, or misplaced, or size of characters not as specified. |  | 207 |

 4.3.2 Dimensional examination. The finished complete liner shall be examined for the dimensional defects in Table V. The sample unit shall be one MOLLE liner.

TABLE V. End item dimensional defect examination.

|  |  |  |
| --- | --- | --- |
|  |  | Classification |
| Examine | Defect | Major | Minor |
| Dimensions (overall) | Smaller than nominal dimensions less applicable minus tolerance indicated on drawings, but not smaller than nominal dimensions less twice the applicable minus tolerance.Smaller than nominal dimensions less twice the applicable minus tolerance.Larger than nominal dimensions and applicable plus tolerance. | 109 | 208209 |

 4.3.3 End item and component testing. The MOLLE Liner and its components shall be tested for the characteristics listed in Table VI and the procedures listed in drawing 2-3-0592 and the methods of testing as specified wherever applicable in Table VI shall be followed. All test reports shall contain the individual values utilized in expressing the final results.

 TABLE VI. End item and component testing

|  |  |  |
| --- | --- | --- |
| Characteristic | RequirementReference | Test Method |
|  **End Item Testing** |
| Empty weight of liner | 3.2.1 | ASTM D 3776 |
| Visual shade matching  | 3.2.6.1 | AATCC Evaluation Procedure 9 Option A 1/ |
|  **Component Testing** |
| **Base Fabric 3.3.1** |
| Color | 3.3.1 | Visual |
| Spectral reflectance | 3.3.1 | 4.3.4.1  |
| Weight | Table II | ASTM D 3776 |
| Breaking strength | Table II | ASTM D 5034 |
| Tearing strength | Table II | ASTM D 1424 |
| Stiffness | Table II | TAPPI T451  |
| Dynamic absorption | Table II | AATCC 70 |
| Hydrostatic resistance  | Table II |  |
|  | Initial | Table II | ASTM D 751 & 4.3.3.1  |
| After cold crack (-20°F) | Table II | ASTM D 751 & 4.3.3.1 |
| After accelerated aging | Table II | ASTM D 751 & 4.3.3.1 |
| After flex fatigue | Table II | ASTM D 751, ASTM F 392 & 4.3.3.1 |
| After weapon lubricant  contamination  | Table II | ASTM D 751, 4.3.3.1, 4.3.3.3 & 4.3.3.3.1 |
| After strength of coating | Table II | ASTM D 751, 4.3.3.1 & 4.3.3.2  |
| After diethyltoluamide contamination  | Table II | ASTM D 751, 4.3.3.1, 4.3.3.2 & 4.3.3.3.2 |
| After abrasion | Table II | ASTM D 751, 4.3.3.1, 4.3.3.4  |
| **Double Coated Nylon Fabric 3.3.2** |
| Fiber identification | 3.3.2 | ASTM D 276 or AATCC 20 2/  |
| Yarn size | 3.3.2 | ASTM D 1059  |
| Weight | Table III | ASTM 3776 |
| Yarns per inch | Table III | ASTM 3775 |
| RF weld adhesion | Table III | ASTM D 751 |
| Colorfastness of coating To water Crocking ( wet and dry) | Table IIITable III | AATCC 107 1/, 3/AATCC 8 1/, 3/ |
| Tear strength | Table III | ASTM D 751 or D 5034 |

 TABLE VI. End item and component testing - Continued

|  |  |  |
| --- | --- | --- |
| Characteristic | RequirementReference | Test Method |
| Breaking strength | Table III | ASTM D 751 or D 1424 |
| Puncture resistance | Table III | ASTM D 751 |
| Hydrostatic resistance | Table III | ASTM D 751 |

1/ With sources simulating artificial daylight D75 illuminant with a color temperature of 7500 (+ 200) °K illumination of 100 (+ 20) foot candles, and shall be a good match to the standard sample under incandescent lamplight at 2856 (+ 200) °K.

2/ In cases of dispute, the ASTM method prevails.

3/ Rated using AATCC Evaluation Procedure 8, AATCC 9 Step Chromatic Transference Scale.

 4.3.3.1 Water permeability. The specimens shall be tested in accordance with ASTM D 751, Hydrostatic Resistance, Procedure B, Procedure 2 with a fixed hydrostatic head of 50 centimeters applied to the face side of the test specimen for 10 minutes. Five specimens shall be tested. The report shall only include measurement for the appearance of water droplets. Leakage is defined as the appearance of one (1) or more droplets of water within the 4-1/2 inch diameter test area.

 4.3.3.2 After strength of coating. Specimen shall be tested in accordance with ASTM D 751 except that the specimen shall be stretched at 20 pounds. The specimen shall then be tested for hydrostatic resistance in accordance with 4.3.3.1.

 4.3.3.3 Contamination procedure. The specimen (or specimen area) shall be laid flat, face side up, on a glass plate, 5-inches by 5-inches by 1/4-inch thick. Three (3) drops of the test liquid (see 4.3.3.3.1 & 4.3.3.3.2) shall be applied to the center of the specimen (or specimen area); as applicable. A glass plate of the same dimensions shall be placed on the specimen (or specimen area) and a pressure of 0.0625 pounds per square inch of glass plate contact area be applied to the assembly. After 16 hours, remove the specimen (or specimen area) from the assembly and test immediately for hydrostatic resistance in accordance with 4.3.3.1.

 4.3.3.3.1 After weapon lubricant contamination. The specimen (or specimen area) shall be tested with weapon lubricant conforming to MIL-PRF-63460 according to the contamination procedure in 4.3.3.3.

 4.3.3.3.2 After diethyltoluamide. The specimen (or specimen area) shall be tested according to the contamination procedure in 4.3.3.3 and the test liquid shall be diethyltoluamide containing 75 percent diethyltoluamide and 25 percent ethanol (see 6.6).

 4.3.3.4 After abrasion. Specimen shall be tested in accordance with ASTM D 3886 except that the test shall be conducted with a load of six (6) pounds and in the multidirectional mode as described. The face side of the specimen shall be abraded for 10,000 cycles using the face side of the test material as the abradant. The specimen shall then be tested for hydrostatic resistance in accordance with 4.3.3.1.

 4.3.4 Method of inspection.

 4.3.4.1 Spectral Reflectance. Spectral reflectance data shall be obtained from 600 to 860 nanometers (nm) at 20 nm intervals on a spectrophotometer relative to the barium sulfate standard, the preferred white standard. Other white reference materials may be used provided they are calibrated to absolute white, e.g. magnesium oxide or vitrolite tiles. The spectral band width shall be less than 26 nm at 860 nm. Reflectance measurements shall be made by either the monochromatic or polychromatic mode of operation. When the polychromatic mode of operation is used, the spectrophotometer shall operate with the specimen diffusely illuminated with the full emission of a continuous source that simulates either CIE Source A or CIE Source D65. Measurements shall be taken on a minimum of two (2) different areas and the data averaged. The specimen shall be measured as a single layer backed with four layers of the same shade. The specimen shall be viewed at an angle no greater than 10° from normal, with the specular component included. Measurements shall be taken on a minimum of two different areas. Specimens shall be oriented in different directions during testing. When possible, the specimens tested shall not contain the same warp or fill when presented to the sample port. Photometric accuracy of the spectrophotometer shall be within 1 percent and wavelength accuracy within 2 nm. The diameter for standard aperture size used in the color measurement device shall be 1.0 to 1.25 inches for solids; Foliage Green 504 for Class 1, Tan 499 for Class 2 and Coyote 498 for Class 3. Any color having spectral reflectance values falling outside the limits at four or more of the wavelengths specified shall be considered a test failure.

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 material is to be performed by DoD or in-house contractor personnel, these personnel need to contact the responsible packaging activity to ascertain requisite packaging requirements. Packaging requirements are maintained by the Inventory Control Point’s packaging activities within the Military Department 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 MOLLE Waterproof Liner is intended for use by all Soldiers and Marines for keeping contents of a rucksack dry.

 6.2 Acquisition requirements. Acquisition documents should specify the following:

a. Title, number and date of this document

b. When a first article is required (see 3.1 and 4.2)

c. Color required (see 3.3.1 and 3.3.2)

d. Conformance inspection Acceptance Quality Limits (see 4.3)

e. Packaging requirements (see 5.1)

 6.3 Standard samples, specifications/drawings and pattern drawings. For access to the standard samples of finished fabrics, address the contracting activity issuing the invitation for bids or request for proposal*.*

 6.4 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.

 6.5 First Article. When a first article inspection is required (see 3.1), it will be inspected and approved under the appropriate provisions of FAR 52.209-4. The first article should be a preproduction sample. The contracting officer should specify the appropriate type of first article and the number of units to be furnished. The contracting officer should include specific instructions in acquisition documents regarding arrangements for selection, inspection, and approval of the first article.

 6.6 Diethyltoluamide (DEET Insect Repellent ) reagent. The insect repellent reagent is a

solution of 75% by weight (min.) of diethyltoluamide and the remainder denatured alcohol. The

diethyltoluamide component of the solution is a technical grade and contains N, N-diethyl-

metatoluamide of not less than 95% purity and the remainder shall consist of entirely or mixture of ortho or para isomers of N, N-diethyltoluamide. The denatured alcohol component of the solution is ethanol, U.S.P. 94.9% by volume and denatured in accordance with the Code of Federal Regulations 27 CFR 21, Formula 40 (see 2.1). The insect repellent must be registered with the U.S. Environmental Protection Agency in accordance with the Federal Insecticide Act, Fungicide and Rodenticide (FIFRA)(see 2.1).

NOTE: (For guidance purposes only, DEET insect repellent conforming to Type II, Concentration A of O-I-503 has been used successfully as a reagent in testing.)

 6.7 Subject term (keyword) listing.

 Dry-bag

 Rucksack

Custodians Preparing Activity

Army-GL Army-GL