

## **SECTION C**

This document covers wintergreen tablets packaged in a flexible package for use by the Department of Defense as a component of survival rations.

### **C-1 ITEM DESCRIPTION**

#### **PCR-W-002, WINTERGREEN TABLETS, PACKAGED IN A FLEXIBLE PACKAGE, SHELF STABLE**

### **C-2 PERFORMANCE REQUIREMENTS**

A. Product standard. A sample shall be subjected to first article (FA) or product demonstration model (PDM) inspection as applicable, in accordance with the tests and inspections of Section E of this Performance-based Contract Requirements (PCR) document. The approved sample shall serve as the product standard. Should the contractor at any time plan to or actually produce the product using different raw material or process methodologies from the approved product standard, which result in a product noncomparable to the product standard, the contractor shall submit a replacement FA or PDM for approval. In any event, all product produced must meet all requirements of this document including product standard comparability.

B. Shelf life. The packaged product shall meet the minimum shelf life requirement of 60 months at 80°F.

C. Appearance. The finished product shall be 14 individually wrapped intact round tablets. The unwrapped tablets shall be white with a dull surface. The finished product shall be free from foreign materials.

D. Odor and flavor. The packaged food shall have a sweet, wintergreen odor and flavor. The packaged food shall be free from foreign odors and flavors.

E. Texture. The tablets shall be firm, not hard or brittle.

F. Size. Each unwrapped tablet shall be not less than 0.62 inch or greater than 0.75 inch in diameter and not less than 0.19 inch or greater than 0.31 inch thick.

G. Net weight. The net weight of the unwrapped tablets (one package) shall be not less than 21 grams and not greater than 28 grams.

H. Palatability and overall appearance. The finished product shall be equal to or better than the approved product standard in palatability and overall appearance.

I. Analytical requirements.

(1) Moisture. The moisture content shall be not greater than 1.0 percent.

### **C-3 MISCELLANEOUS INFORMATION**

THE FOLLOWING IS INFORMATION ONLY TO PROVIDE THE BENEFIT OF PAST GOVERNMENT EXPERIENCE. THIS IS NOT A MANDATORY CONTRACT REQUIREMENT.

A. Ingredients and formulation. Ingredients and formulation may be as follows:

| <u>Wintergreen tablets</u>                                     | <u>Percent by weight</u> |
|--|--------------------------|
| Sucrose, white granular, direct compacting and tableting sugar | 95.80                    |
| Maltodextrin   | 3.00                     |
| Magnesium stearate   | 1.00                     |
| Flavoring, wintergreen, natural and artificial                 | 0.20                     |

### **SECTION D**

#### **D-1 PACKAGING**

A. Packaging.

(1) Tablet packaging material. Each tablet shall be individually wrapped in a 2-ply laminated material composed of an external 0.00028 inch aluminum foil layer and a 15 pound paper food contact layer so that the entire tablet has no external exposure. The material shall not transfer any foreign odor or flavor to the tablet. The exterior of the material shall be a nonreflective gray or silver color.

(2) Package material. The tablets shall be unitized in a heat-sealable, laminated material, one lamina of which shall be a minimum of 0.00028 inch aluminum foil. The exterior laminate shall be uniformly colored and shall conform to number 34082, 34089, 34098, or 34102 of FED-STD-595, Colors Used in Government Procurement. The laminates shall be suitably formulated for food packaging and shall not impart any odor or flavor to the product being unitized. The package material shall show no evidence of delamination or damage (tear or hole).

(3) Package filling and sealing. Fourteen individually wrapped tablets shall be assembled in a row along the length dimension of the package material. The package material shall be folded around the row of tablets and heat sealed along the length dimension. The open ends of the package shall be folded in or sealed and folded in to close off the roll and contain the tablets.

## **D-2 LABELING**

A. Package. Each package shall be correctly and legibly labeled. Printing ink shall be permanent black ink or other dark contrasting color which is free of carcinogenic elements. Pressure-sensitive labels may be used instead of marking directly on the package material. Labels shall be of a water-resistant grade of paper or film and coated on one side with pressure-sensitive adhesive. The texture of the material shall permit flexibility. Labels shall be suitable for printing or writing on with ink without feathering or spreading. The adhesive shall be of a pressure-sensitive permanent type, must be suitable for use with food products, and shall be free of carcinogenic elements or ingredients. The adhesive shall be water-insoluble, homogenous, and shall be coated in a smooth layer on one side of the label. The adhesive shall require no solvent, heat, or other preparation prior to application. Adhesive shall be of a type that will adhere to the package surface under high or low temperatures. Dimensions of the label shall not be larger than the dimensions of the surface of the product where the label is applied on the package. The label shall contain the following information:

- (1) Name and flavor of product (letters not less than 1/16 inch high)
- (2) Ingredients
- (3) Date 1/
- (4) Name and address of packer
- (5) Optional: "Nutrition Facts" label in accordance with the Nutrition Labeling and Education Act (NLEA) and all applicable FDA regulations

1/ Each package shall have the date of pack noted by using a four digit code beginning with the final digit of the current year followed by the three digit Julian day code. For example, 14 February 2014 would be coded as 4045. The Julian day code shall represent the day the product was packaged.

### **D-3 PACKING**

A. Packing. Not more than 40 pounds of product shall be packed in a fiberboard shipping box constructed in accordance with style RSC-L of ASTM D5118/D5118M, Standard Practice for Fabrication of Fiberboard Shipping Boxes. The fiberboard shall conform to type CF, class D, variety SW, burst grade 200 or ECT grade 32 of ASTM D4727/D4727M, Standard Specification for Corrugated and Solid Fiberboard Sheet Stock (Container Grade) and Cut Shapes. Each box shall be closed in accordance with ASTM D1974/D1974M, Standard Practice for Methods of Closing, Sealing, and Reinforcing Fiberboard Boxes.

### **D-5 MARKING**

A. Shipping containers. Shipping containers shall be marked in accordance with DLA Troop Support Form 3556, Marking Instructions for Boxes, Sacks, and Unit Loads of Perishable and Semiperishable Subsistence.

## **SECTION E INSPECTION AND ACCEPTANCE**

The following quality assurance criteria, utilizing ANSI/ASQ Z1.4, Sampling Procedures and Tables for Inspection by Attributes, are required. Unless otherwise specified, single sampling plans indicated in ANSI/ASQ Z1.4 will be utilized. When required, the manufacturer shall provide the Certificate(s) of Conformance to the appropriate inspection activity. Certificate(s) of Conformance not provided shall be cause for rejection of the lot.

### A. Definitions.

(1) Critical defect. A critical defect is a defect that judgment and experience indicate would result in hazardous or unsafe conditions for individuals using, maintaining, or depending on the item; or a defect that judgment and experience indicate is likely to prevent the performance of the major end item, i.e., the consumption of the ration.

(2) Major defect. A major defect is a defect, other than critical, that is likely to result in failure, or to reduce materially the usability of the unit of product for its intended purpose.

(3) Minor defect. A minor defect is a defect that is not likely to reduce materially the usability of the unit of product for its intended purpose, or is a departure from established standards having little bearing on the effective use or operation of the unit.

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

(1) Product standard inspection. The first article or product demonstration model shall be inspected in accordance with the provisions of this document and evaluated for appearance, odor, flavor, and texture. Any failure to conform to the performance requirements or any appearance or palatability failure shall be cause for rejection of the lot.

(2) Periodic review evaluation. The approved first article or product demonstration model shall be used as the product standard for periodic review evaluations. All food components that are inspected by the USDA shall be subject to periodic review sampling and evaluation. The USDA shall select sample units during production of contracts and submit them to the following address for evaluation:

US Army Research, Development and Engineering Command  
Natick Soldier Research, Development and Engineering Center  
RDNS-CFF  
15 Kansas Street  
Natick, MA 01760-5056

One lot shall be randomly selected as specified in the contract. Three (3) sample units shall be randomly selected from that one production lot. The three (3) sample units shall be shipped to Natick within five (5) working days from the end of the production month from which they are randomly selected and upon completion of all USDA inspection requirements. The sample units will be evaluated for overall quality against the current first article or product demonstration model.

(3) Conformance inspection. Conformance inspection shall include the product examinations/tests and methods of inspection cited in this section.

#### **E-5 QUALITY ASSURANCE PROVISIONS (PRODUCT)**

A. Product examination. The finished product shall be examined for compliance with the performance requirements specified in Section C of this Performance-based Contract Requirements document utilizing the double sampling plans indicated in ANSI/ASQ Z1.4. The lot size shall be expressed in packages. The sample unit shall be the contents of one package. The inspection level shall be S-3 and the acceptable quality level (AQL), expressed in terms of defects per hundred units, shall be 1.5 for major defects and 4.0 for minor defects. Defects and defect classifications are listed in table I.

TABLE I. Product defects 1/ 2/

| Category     |              | Defect  |
|--------------|--------------|---|
| <u>Major</u> | <u>Minor</u> |   |
|              |              | <u>Appearance</u>   |
| 101          |              | Product not wintergreen tablets.  |
| 102          |              | Not 14 tablets or not individually wrapped.   |
|              | 201          | Tablets not intact. <u>3/</u>   |
|              | 202          | Tablets not round or not white or not with a dull surface.  |
|              |              | <u>Odor and flavor</u>  |
| 103          |              | Tablets not a sweet wintergreen odor or flavor.   |
|              |              | <u>Texture</u>  |
|              | 203          | Tablets not firm or are hard or brittle.  |
|              |              | <u>Size</u>   |
|              | 204          | Each unwrapped tablet less than 0.62 inch or greater than 0.75 inch in diameter or less than 0.19 inch or greater than 0.31 inch thick. |
|              |              | <u>Net weight</u>   |
|              | 205          | Net weight of the unwrapped tablets (one package) less than 21 grams or greater than 28 grams.  |

1/ Presence of any foreign materials such as, but not limited to dirt, insect parts, hair, glass, wood, or metal, or any foreign odors or flavors such as, but not limited to burnt, scorched, rancid, sour, stale, musty or moldy shall be cause for rejection of the lot.

2/ Finished product not equal to or better than the approved product standard in palatability and overall appearance shall be cause for rejection of the lot.

3/ A tablet that is not intact is broken into two or more pieces and shows evidence of fracturing horizontally or vertically.

**B. Methods of inspection**

(1) Shelf life. The contractor shall provide a Certificate of Conformance that the product has a 60 month shelf life when stored at 80°F. Government verification may include storage for 4 weeks at 140°F or 60 months at 80°F. Upon completion of either storage period, the product will be subjected to a sensory evaluation panel for appearance and palatability and must receive an overall score of 5 or higher based on a 9 point quality scale to be considered acceptable.

(2) Net weight. The net weight of the filled and sealed package shall be determined by weighing each sample unit on a suitable scale tared with a representative empty package. Results shall be reported to the nearest 1 gram.

(3) Analytical. The sample to be analyzed shall be a composite of eight filled and sealed packages which have been selected at random from the lot. The composite sample shall be prepared and analyzed in accordance with the following methods of the Official Methods of Analysis (OMA) of AOAC International:

| <u>Test</u> | <u>Method Number</u>       |
|-------------|----------------------------|
| Moisture    | 925.45A, 985.14 or 2008.06 |

Test results shall be reported to the nearest 0.1 percent. Government verification will be conducted through actual testing by a Government laboratory. Any result not conforming to the analytical requirement shall be cause for rejection of the lot.

**E-6 QUALITY ASSURANCE PROVISIONS (PACKAGING AND PACKING MATERIALS)**

A. Packaging.

(1) Package material certification. The package material shall be tested for these characteristics. A Certificate of Conformance (CoC) may be accepted as evidence that the characteristics conform to the specified requirements.

| <u>Characteristic</u>                              | <u>Requirement paragraph</u> | <u>Test procedure</u> |
|--|------------------------------|-----------------------|
| Thickness of films for laminated material          | D-1,A(1)a and D-1,A(2)a      | ASTM D2103 <u>1/</u>  |
| Aluminum foil thickness                            | D-1,A(1)a and D-1,A(2)a      | ASTM B479 <u>2/</u>   |
| Laminated material identification and construction | D-1,A(1)a and D-1,A(2)a      | Laboratory evaluation |
| Color of laminated material                        | D-1,A(1)a and D-1,A(2)a      | FED-STD-595 <u>3/</u> |

1/ Standard Specification for Polyethylene Film and Sheeting

2/ Standard Specification for Annealed Aluminum and Aluminum-Alloy Foil for Flexible Barrier, Food Contact, and Other Applications

3/ Colors Used in Government Procurement

(2) Filled and sealed package examination. The filled and sealed packages shall be examined for the defects listed in table II. The lot size shall be expressed in packages. The sample unit shall be one package. The inspection level shall be S-3 and the AQL, expressed in terms of defects per hundred units, shall be 0.65 for major defects and 2.5 for minor defects.



TABLE II. Filled and sealed package defects 1/

| Category     |              | Defect                                   |
|--------------|--------------|--|
| <u>Major</u> | <u>Minor</u> |  |
| 101          |              | Tear or hole or open seal.               |
| 102          |              | Unclean package. <u>2/</u>               |
| 103          |              | Package has foreign odor.                |
| 104          |              | Not packaged as specified.               |
|              | 201          | Color of package not as specified.       |
|              | 202          | Label missing or incorrect or illegible. |
|              | 203          | Presence of delamination. <u>3/</u>      |

1/ Any evidence of rodent or insect infestation shall be cause for rejection of the lot.

2/ Outer packaging shall be free from foreign matter which is unwholesome, has the potential to cause package damage (for example, glass, metal filings) or generally detracts from the clean appearance of the package. The following examples shall not be classified as defects for unclean:

a. Foreign matter which presents no health hazard or potential package damage and which can be readily removed by gently shaking the package or by gently brushing the package with a clean dry cloth.

3/ Delamination defect classification:

Major - Delamination of the outer ply in the package seal area that can be propagated to expose aluminum foil at the food product edge of the package after manual flexing of the delaminated area. To flex, the delaminated area shall be held between the thumb and forefinger of each hand with both thumbs and forefingers touching each other. The delaminated area shall then be rapidly flexed 10 times by rotating both hands in alternating clockwise- counterclockwise directions. Care shall be exercised when flexing delaminated areas near the tear notches to avoid tearing the package material. After flexing, the separated outer ply shall be grasped between thumb and forefinger and gently lifted toward the food

product edge of the seal or if the separated area is too small to be held between thumb and forefinger, a number two stylus shall be inserted into the delaminated area and a gentle lifting force applied against the outer ply. If separation of the outer ply can be made to extend to the product edge of the seal with no discernible resistance to the gentle lifting, the delamination shall be classified as a major defect. Additionally, spot delamination of the outer ply in the body of the package that is able to be propagated beyond its initial borders is also a major defect. To determine if the laminated area is a defect, use the following procedure: Mark the outside edges of the delaminated area using a bold permanent marking pen. Open the package and remove the contents. Cut the package transversely not closer than 1/4 inch ( $\pm$  1/16 inch) from the delaminated area. The package shall be flexed in the area in question using the procedure described above. Any propagation of the delaminated area, as evidenced by the delaminated area exceeding the limits of the outlined borders, shall be classified as a major defect.

Minor - Minor delamination of the outer ply in the package seal area is acceptable and shall not be classified as a minor defect unless it extends to within 1/16 inch of the food product edge of the seal. All other minor outer ply delamination in the package seal area or isolated spots of delamination in the body of the package that do not propagate when flexed as described above shall be classified as minor defects.

B. Packing.

(1) Shipping container and marking examination. The filled and sealed shipping containers shall be examined for the defects listed in table III. The lot size shall be expressed in shipping containers. The sample unit shall be one shipping container fully packed. The inspection level shall be S-3 and the AQL, expressed in terms of defects per hundred units, shall be 4.0 for major defects and 10.0 for total defects.

TABLE III. Shipping container and marking defects

| Category     |              | Defect                                     |
|--------------|--------------|--|
| <u>Major</u> | <u>Minor</u> |  |
| 101          |              | Marking missing or incorrect or illegible. |
| 102          |              | Inadequate workmanship. <u>1/</u>          |
|              | 201          | More than 40 pounds of product.            |

1/ Inadequate workmanship is defined as, but not limited to, incomplete closure of container flaps, loose strapping, inadequate stapling, improper taping, or bulged or distorted container.

**SECTION J REFERENCE DOCUMENTS**

Unless otherwise specified, the applicable version of these documents is that which is active on the date of the solicitation or contract.

DLA Troop Support Form

Form 3556            Marking Instructions for Boxes, Sacks, and Unit Loads of  
Perishable and Semiperishable Subsistence

FEDERAL STANDARD

FED-STD-595        Colors Used in Government Procurement

NON-GOVERNMENTAL STANDARDS

AMERICAN SOCIETY FOR QUALITY (ASQ) [www.asq.org](http://www.asq.org)

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

ASTM INTERNATIONAL [www.astm.org](http://www.astm.org)

B479                Standard Specification for Annealed Aluminum and  
Aluminum-Alloy Foil for Flexible Barrier, Food Contact,  
and Other Applications

D1974/D1974M      Standard Practice for Methods of Closing, Sealing, and  
Reinforcing Fiberboard Boxes

D2103               Standard Specification for Polyethylene Film and Sheeting

D4727/D4727M      Standard Specification for Corrugated and Solid Fiberboard  
Sheet Stock (Container Grade) and Cut Shapes

**PCR-W-002**  
**20 December 2013**  
**SUPERSEDING**  
**MIL-W-44464**  
**30 September 1992**

D5118/D5118M Standard Practice for Fabrication of Fiberboard Shipping  
Boxes

F88/F88M Standard Test Method for Seal Strength of Flexible Barrier  
Materials

AOAC INTERNATIONAL [www.aoac.org](http://www.aoac.org)

Official Methods of Analysis (OMA) of the AOAC International