

**PKG & QAP**  
**A-A-20183C**  
**24 June 2009**  
**SUPERSEDING**  
**A-A-20183B**  
**28 April 2006**

## **SECTION C**

This document covers instant tea mixes packaged in envelopes or pouches for use by the Department of Defense as a component of operational rations.

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

#### **PACKAGING REQUIREMENTS AND QUALITY ASSURANCE PROVISIONS FOR CID A-A-20183C TEA MIXES, INSTANT**

##### Varieties, styles, types, flavors, designs and packages

Variety I – Black tea

Style A – Sweetened with nutritive sweeteners

Type 1 – Regular (caffeinated)

Flavor b – Lemon

Design C – Envelope

Style B – Sweetened with non-nutritive sweeteners

Type 1 – Regular (caffeinated)

Flavor b – Lemon

Flavor c – Raspberry

Flavor d – Peach

Design D – Lap or fin seal pouch

Variety II – White tea

Style B – Sweetened with non-nutritive sweeteners

Type 1 – Regular (caffeinated)

Flavor g – Blueberry

Design D – Lap or fin seal pouch

##### Packages.

Package A – Meal, Cold Weather (MCW)

Package B – Food Packet, Long Range Patrol (LRP)

Package C – Meal, Ready-to-Eat™ (MRE™)

Package E – Unitized Group Ration™ (UGR) - Heat & Serve™

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Package G – Food Packet Survival, General Purpose  
Package J – First Strike Ration® (FSR®)  
Package K – Unitized Group Ration - Express™(UGR-E™)

## **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 the Packaging Requirements and Quality Assurance Provisions. 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 non comparable to the product standard, the contractor shall arrange for a new or alternate FA or PDM approval. In any event, all product produced must meet all requirements of this document including product standard comparability.

B. Shelf life. The packaged food shall meet the minimum shelf life requirement of 36 months at 80°F.

C. Dry product.

(1) Appearance. The finished product shall be free from foreign materials.

(2) Odor. The packaged product shall be free from foreign odors.

(3) Texture. The instant tea mix shall be free flowing.

D. Rehydrated product.

(1) Appearance. Variety I black tea shall be a light brown tea color and shall be sediment free. Variety II white tea shall be a translucent gold color and shall be sediment free.

(2) Odor and flavor. The product shall be free from foreign odors and flavors.

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

F. Net weight.

(1) Variety I, style A, type 1, flavor b. The net weight of one serving of product shall be not less than 14.0 grams.

(2) Variety I, style B, type 1, flavors b, c and d. The net weight of one serving of product shall be not less than 2.5 grams.

(3) Variety II, style B, type 1, flavor g. The net weight of one serving of product shall be not less than 2.1 grams.

G. Reconstitution. The product shall fully dissolve within 2 minutes in hot or cold water with constant stirring and show no evidence of undissolved floating particles.

H. Analyticals. For all types specified, the analytical requirements and procedures shall be in accordance with A-A-20183C.

**SECTION D**

**D-1 PACKAGING**

A. Packaging.

(1) Envelope. A net weight of 14.0 grams of variety I, style A, type 1, flavor b product shall be filled into an envelope. The envelope shall be made from a heat-sealable, laminated material, one lamina of which shall be a minimum of 0.00035 inch thick aluminum foil. The envelope shall be heat sealed on all four edges or on three edges with the fourth edge being formed by folding the material on an anvil prior to filling. The filled and sealed envelope shall have dimensions of not more than 3-1/2 inches in length, 2-1/2 inches in width, and 1/8 inch in thickness. The seals shall be a minimum 1/8 inch in width. The closure seals shall be free of foldover wrinkles or entrapped material that reduces the effective closure seal width to less than 1/16 inch. A tear nick, notch or serrations shall be provided to facilitate opening of the filled and sealed pouch. The sealed envelope shall not leak when tested in accordance with E-6,B(1).

(2) Lap or fin seal pouch. When specified, 2.5 grams of variety I, style B, type 1, flavors b, c or d product, or 2.1 grams of variety II, style B, type 1, flavor g product, shall be unit packed into a lap or fin-seal pouch. The lap or fin-seal pouch shall be a heat-sealable, laminated material, one lamina of which shall be a minimum of 0.00035 inch thick aluminum

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foil. The pouch shall be heat sealed with a length-wise lap or fin seal and heat sealed at each end. The filled and sealed pouch shall have dimensions of not more than 4-3/4 inches in length, 7/8 inches in width, and 3/8 inch in thickness. All seals shall be a minimum of 1/8 inch in width. A tear nick, notch or serrations shall be provided to facilitate opening of the filled and sealed pouch. The sealed pouch shall not leak when tested in accordance with E-6,B(1).

## **D-2 LABELING**

A. Labeling. Each envelope or pouch shall be correctly and legibly labeled. Printing ink shall be permanent black ink or other, dark, contrasting color which is free of carcinogenic elements.

(1) The label shall contain the following information:

Name and flavor of product (letters not less than 1/8 inch high)

Ingredients

Date 1/

Net weight

Name and address of packer

“Nutrition Facts” label in accordance with the Nutrition Labeling and Education Act (NLEA) and all applicable FDA regulations.

(2) Labeling shall also show the following applicable directions:

a. Directions for a 14.0 gram envelope:

Add 1/4 canteen cup (6 ounces) of water to contents and stir. Allow water just chemically purified to stand 30 minutes before adding powder.

b. Directions for a lap or fin seal pouch: Add 20 ounces of cold water to contents and stir (about 1 canteen cup) Alternatively, add the contents of one pouch to a 20 ounce bottle of water. Allow water just chemically purified to stand 30 minutes before adding powder.

1/ Each envelope or pouch 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 2010 would be coded as 0045. The Julian day code shall represent the day the product was packaged into the envelope or pouch.

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### **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 D 5118/D 5118M, Standard Practice for Fabrication of Fiberboard Shipping Boxes. The fiberboard shall conform to type CF, class D, variety SW, grade 200 of ASTM D 4727/D 4727M, Standard Specification for Corrugated and Solid Fiberboard Sheet Stock (Container Grade) and Cut Shapes. Each box shall be closed in accordance with ASTM D 1974, 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 DSCP 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.

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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 overall appearance and palatability. Any failure to conform to the performance requirements or any appearance or palatability failure shall be cause for rejection of the lot. 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 01760-5018

One lot shall be randomly selected during each calendar month of production. Three (3) sample units of each item produced shall be randomly selected from that one production lot. The three (3) sample units shall be shipped to Natick within five working days from the end of the production month and upon completion of all USDA inspection requirements. The sample units will be evaluated for the characteristics of appearance, odor, flavor, texture and overall quality.

(2) Conformance inspection. Conformance inspection shall include the product examination and the 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 A-A-20183C and Section C of the Packaging Requirements and Quality Assurance Provisions document utilizing the double sampling plans indicated in ANSI/ASQ Z1.4. The lot size shall be expressed in envelopes or pouches. The sample unit shall be the contents of one envelope or pouch. 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>	
101		Product not variety or style or type or flavor or design as specified.
		<u>Dry product</u>
		<u>Appearance</u>
	201	Variety I not a light brown color.
	202	Variety II not light to medium gold color.
	203	Product not a uniform distribution of ingredients.
	204	Product contains aggregates of individual ingredients or anti-caking agents.
		<u>Odor</u>
	205	Product odor not variety or style or type or flavor of tea mix specified.
		<u>Texture</u>
	206	Product not free flowing.

TABLE I. Product defects 1/ 2/ - Continued

Category		Defect
<u>Major</u>	<u>Minor</u>	
	207	Presence of hard lumps. <u>3/</u>
		<u>Net weight</u>

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- 208 Net weight of variety I, style A, type 1, flavor b less than 14.0 grams.
- 209 Net weight of variety I, style B, type 1, flavors b or c or d less than 2.5 grams.
- 210 Net weight of variety II, style B, type 1, flavor g less than 2.1 grams.

Rehydrated product 4/  
Appearance

- 102 Variety I not a light brown tea color.
- 103 Variety II not a translucent gold color.
- 104 Tea not sediment free.

Odor and flavor

- 105 Variety I odor or flavor of tea not as specified.
- 106 Variety II odor or flavor of tea not as specified.

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1/ Presence of any foreign materials such as, but not limited to dirt, insect parts, hair, glass, wood, or metal, or 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. Foreign flavor not applicable to dry product.

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. Palatability not applicable to dry product.

3/ Lumps that do not fall apart under light pressure between the fingers shall be scored as a defect.



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4/ Prior to conducting the rehydrated product examination, the product shall be reconstituted per label instructions. Product that does not fully dissolve (shows evidence of undissolved floating particles) within 2 minutes with constant stirring shall be cause for the rejection of the lot.

**B. Methods of inspection.**

(1) Shelf life. The contractor shall provide a Certificate of Conformance that the product has a 36 month shelf life when stored at 80°F. Government verification may include storage for 6 months at 100°F or 36 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 hedonic scale to be considered acceptable.

(2) Net weight. The net weight of the filled and sealed envelopes or pouches shall be determined by weighing each sample on a suitable scale tared with a representative empty envelope or pouch. Results shall be reported to the nearest 0.1 gram.

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

**A. Packaging and labeling.**

(1) Envelope or pouch material certification. Material, construction and sealing requirements shall be verified by Certificate of Conformance.

(2) Filled and sealed envelope or pouch examination. The filled and sealed envelopes or pouches shall be examined for the defects listed in table II. The sample size shall be expressed in envelopes or pouches. The sample unit shall be one envelope or pouch. The inspection level shall be I 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 envelope or pouch defects 1/

Category		Defect
<u>Major</u>	<u>Minor</u>	
101		Tear or hole or open seal.

- 201 Envelopes or pouches exceed maximum dimensions.
- 102 Leakage. 2/
- 103 Seal separation or delamination. 2/
- 104 Unclean.
- 105 Envelope or pouch has foreign odor.
- 106 Not packaged as specified.
- 107 Envelope or pouch not sealed with minimum 1/8 inch wide seals.
- 202 Label missing or incorrect or illegible.
- 203 Tear nick or notch or serrations missing or does not facilitate opening.
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1/ Any evidence of rodent or insect infestation shall be cause for rejection of the lot.

2/ Examine envelopes or pouches after leakage test.

B. Methods of inspection.

(1) Leakage test. For design C, filled and sealed envelopes shall be tested by placing them in a dry desiccator, or similar apparatus, and subjecting them to a vacuum of 26 inches of mercury (atmospheric pressure is 29.9 inches of mercury) for 30 seconds. For design D, filled and sealed lap or fin seal pouches shall be tested by placing them in a dry desiccator, or similar apparatus, and subjecting them to a vacuum of 15 inches of mercury (atmospheric pressure is 29.9 inches of mercury) for 30 seconds. Any envelope or pouch that does not swell to form a tightly distended package having at least one distorted edge during the test shall be recorded as a leaker. After vacuum testing, the envelopes or pouches shall be visually inspected for evidence of delamination and for seal separation. Any leakage, any delamination, or any seal separation of more than 1/16 inch from the product edge of any seal shall be recorded as a major defect.

C. Packing.

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(1) Shipping container and marking examination. The filled and sealed shipping containers shall be examined for the defects listed in table III below. 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.

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## **SECTION J REFERENCE DOCUMENTS**

Unless otherwise specified, the issues of these documents are those active on the date of the solicitation or contract.

### DSCP FORMS

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

### 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)

D 1974      Standard Practice for Methods of Closing, Sealing,  
and Reinforcing Fiberboard Boxes

D 4727/D 4727M      Standard Specification for Corrugated and Solid  
Fiberboard Sheet Stock (Container Grade) and Cut Shapes

D 5118/D  
5118M      Standard Practice for Fabrication of Fiberboard  
Shipping Boxes