PCR-C-081A
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SUPERSEDING
PCR-C-081
18 February 2010

SECTION C

This document covers shelf stable chocolate pudding packaged in a flexible pouch for use by the Department of Defense as a component of operational rations.

C-1 ITEM DESCRIPTION

PCR-C-081A, CHOCOLATE PUDDING, PACKAGED IN A FLEXIBLE POUCH, SHELF STABLE

Types.

Type I - Chocolate pudding with caffeine
Type II - Chocolate pudding with protein

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. Commercial sterility. The packaged food shall be processed until commercially sterile.

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

D. Appearance.

(1) General. The finished product shall be a uniform medium brown color and shall not contain free liquid or discernible lumps. The chocolate pudding shall be smooth and moderately thick. The finished product shall be free from foreign materials.

(2) Type I. The chocolate pudding with caffeine shall be creamy.

(3) Type II. The chocolate pudding with protein shall be glossy.

E. Odor and flavor. The packaged food may have a slight bitter flavor. The packaged food shall be free from foreign odors and flavors.

(1) Type I. The packaged food shall have a sweet chocolate odor and a sweet chocolate with a slight vanilla flavor.

(2) Type II. The packaged food shall have a sweet milk chocolate odor and flavor.

F. Texture. The pudding shall be smooth and creamy with no discernible lumps or excessive chalkiness.

(1) Type I. The pudding shall have a moderately thick consistency.

(2) Type II. The pudding shall have a slight to moderately thick consistency.

G. Net weight.

(1) Type I. The average net weight shall be not less than 4.5 ounces (128 grams). The net weight of an individual pouch shall be not less than 4.0 ounces (113 grams).

(2) Type II. The average net weight shall be not less than 5.5 ounces (156 grams). The net weight of an individual pouch shall be not less than 5.0 ounces (142 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) Protein. For type II, the protein content shall be not less than 7.0 percent.

(2) Fat. The *trans* fat content shall be not greater than 0 grams per serving.

a. For type I, the fat content shall be not greater than 6.5 percent.

b. For type II, the fat content shall be not greater than 4.0 percent.

(3) Caffeine. For type I, the caffeine content shall be not less than 200 milligrams and not greater than 250 milligrams per serving.

(4) Total solids.

a. For type I, the total solids shall be not less than 35.0 percent.

b. For type II, the total solids shall be not less than 25.0 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. Type I ingredients and formulation may be as follows:

Ingredients	Percent by weight
Water	57.90
Non-dairy creamer 1/	17.00
Sugar, white granulated	16.60
Modified food starch 2/	4.50
Dutched cocoa	3.50
Salt, non-iodized	0.20
Anhydrous caffeine	0.18
Sucrose ester	0.10
Natural vanilla flavor	0.02

1/ “Sana-Crème V” Kerry Inc., 100 East Grand Avenue, Beloit, WI 53511

2/ “Thermtex” National Starch and Chemical Co., 10 Finderne Avenue, Bridgewater, NJ 08807

B. Ingredients. Type II ingredients may be as follows: lowfat milk, water, sugar, beef protein, modified food starch, cocoa (processed with alkali), natural chocolate chip flavor type, xanthan gum, sodium citrate dehydrate.

SECTION D

D-1 PACKAGING

Product shall be filled into pouches in accordance with MIL-PRF-44073, Packaging of Food in Flexible Pouches, Type I, style 2 or 3.

D-2 LABELING

A. Style 2 and 3 pouches. Each pouch shall be correctly and legibly labeled. Printing ink shall be permanent black ink or any other contrasting color, which is free of carcinogenic elements. Prior to thermal processing of the pouches, the product name, lot number, filling equipment number and time stamp shall be applied. All other marking may be applied before or after thermal processing.

(1) Product name (not less than 1/8 inch high). Commonly used abbreviations may be used.

(2) Pouch code includes: 1/

Lot Number
Filling equipment identification number
Company code
Retort identification number and Retort cook number (Optional)
Time stamp (Hour and minute of filling/sealing operation)

1/ The lot number shall be expressed as a four digit Julian code. The first digit shall indicate the year of production and the next three digits shall indicate the day of the year (Example, 14 February 2020 would be coded as 0045). The Julian code shall represent the day the product was packaged into the pouch and processed. Following the four digit Julian code, the other required code information shall be printed in the sequence as listed above.

The pouches or paperboard sleeves or paperboard insert cards shall also be labeled with:

Product name (7/32 to 9/32 inch block letters)
Ingredients
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
Caffeine content per serving in milligrams, as applicable

(3) The product shall be formulated and labeled in accordance with all Food and Drug Administration (FDA) labeling regulations and policies. The pouches or paperboard sleeves or paperboard insert cards shall be labeled with the following product names, as applicable.

Types	Product Names
I	CHOCOLATE PUDDING WITH CAFFEINE
II	CHOCOLATE PUDDING WITH PROTEIN

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, minimum burst grade 200 or ECT 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:

DEPARTMENT OF THE ARMY
FCDD-SCC-EMR
COMBAT CAPABILITIES DEVELOPMENT COMMAND-SOLDIER CENTER
10 GENERAL GREENE AVENUE
NATICK, MA 01760-5056

One lot shall be randomly selected during each calendar month of production. 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 examinations/tests and methods of inspection cited in this section and in section 4 of MIL-PRF-44073.

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 pouches. The sample unit shall be the contents of one 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/ 3/

Category		Defect
Major	Minor	
		General
101		Product not chocolate pudding type as specified.
	201	The finished product not a uniform medium brown color or contains free liquid or has discernible lumps.
		Appearance
	202	Type I and II puddings not smooth or not moderately thick.
	203	Type I pudding not creamy.
	204	Type II pudding not glossy.
		Odor and flavor
102		Type I pudding does not have a sweet chocolate odor.

103	Type I pudding does not have a sweet chocolate with slight vanilla flavor.
104	Type II pudding does not have a sweet milk chocolate odor or flavor.

TABLE I. Product defects 1/ 2/ 3/ - Continued

Category		Defect
Major	Minor	
		Texture
	205	Type I and II puddings not smooth or not creamy.
	206	Type I and II puddings have discernible lumps or have excessive chalkiness.
	207	Type I pudding not a moderately thick consistency.
	208	Type II pudding not smooth or not creamy or not a slight to moderately thick consistency.
		Net weight
	209	For Type I, net weight of an individual pouch less than 4.0 ounces (113 grams). 4/
	210	For Type II, net weight of an individual pouch less than 5.0 ounces (142 grams). 5/

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/ The *trans* fat content shall be verified by the NLEA "Nutrition Facts" label. Product not conforming to the *trans* fat content as specified in Section C of this document shall be cause for rejection of the lot.

4/ For Type I, sample average net weight less than 4.5 ounces (128 grams) shall be cause for rejection of the lot.

5/ For Type II, sample average net weight less than 5.5 ounces (156 grams) shall be cause for rejection of the lot.

B. Methods of inspection.

(1) Commercial sterility. Commercial sterility shall be verified in accordance with FDA regulations.

(2) 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 quality scale to be considered acceptable.

(3) Net weight. The net weight of the filled and sealed pouches shall be determined by weighing each sample on a suitable scale tared with a representative empty pouch. Results shall be reported to the nearest 0.1 ounce or to the nearest 1 gram.

(4) Analytical. The sample to be analyzed shall be a composite of eight filled and sealed pouches 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:

Test	Method Number
Protein	930.29A, 984.13 or 992.15
Fat	932.06 or 2008.06
Caffeine	980.14
Total solids	935.56

Test results for protein shall be reported to the nearest 1 gram. Test results for fat and total solids shall be reported to the nearest 0.1 percent. Test results for caffeine shall be reported to

the nearest 1 milligram. 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) Pouch material testing. The pouch material, pouch and sleeve, as applicable, in accordance with the lot size, sample unit, and inspection level criteria shall be tested for the performance characteristics listed in table I of MIL-PRF-44073, Packaging of Food in Flexible Pouches for Type I. Any test failure shall be classified as a major defect and shall be cause for rejection of the lot.

(2) Filled and sealed pouch examination. The filled and sealed commercially sterile pouches shall be examined for the defects listed in table II of MIL-PRF-44073 for Type I. The lot size shall be expressed in pouches. The sample unit shall be one thermal processed pouch. The inspection level shall be I and the AQL, expressed in terms of defects per hundred units, shall be 0.65 for major A defects, 2.5 for major B defects, and 4.0 for minor defects. Two hundred sample units shall be examined for critical defects. The finding of any critical defect shall be cause for rejection of the lot.

(3) Paperboard sleeve or paperboard insert card examination. The sleeve or insert card (as applicable) shall be examined for the defects listed in table III of MIL-PRF-44073 for Type I. The lot size shall be expressed in units of sleeves or insert cards. The sample unit shall be one sleeve or one insert card. 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.

B. Packing.

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

Category		Defect
Major	Minor	
101		Marking missing or incorrect or illegible.
102		Inadequate workmanship. 1/
	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

MILITARY SPECIFICATION

MIL-PRF-44073 Packaging of Food in Flexible Pouches

NON-GOVERNMENTAL STANDARDS

AMERICAN SOCIETY FOR QUALITY (ASQ) www.asq.org

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

AOAC INTERNATIONAL www.aoac.org

Official Methods of Analysis (OMA) of AOAC International

ASTM INTERNATIONAL www.astm.org

D1974/D1974M	Standard Practice for Methods of Closing, Sealing, and Reinforcing Fiberboard Boxes
D4727/D4727M	Standard Specification for Corrugated and Solid Fiberboard Sheet Stock (Container Grade) and Cut Shapes
D5118/D5118M	Standard Practice for Fabrication of Fiberboard Shipping Boxes