PKG&QA20043A
23 May 2003
Change 01 14 Aug 03
SUPERSEDING
31 January 2000

SECTION C

This document covers dry, non-dairy creamer packaged in a flexible pouch 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-20043A, CREAMER, NON-DAIRY, DRY

Packages.

Package A – Meal, Cold Weather (MCW)
Package B – Food Packet, Long Range Patrol (LRP)
Package C – Meal, Ready-To-Eat (MRE)

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 product shall meet the minimum shelf life requirement of 36 months at 80^{o}F.

C. Net weight. The net weight of one serving of product shall be 4 grams.

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

E. Dispersability. The product shall readily dissolve in hot coffee in 15 seconds and show no evidence of curdling, feathering, or undissolved floating particles.

SECTION D

D-1 PACKAGING

A. Packaging. Not less than 4 grams of non-dairy creamer shall be filled into an envelope having maximum outside dimensions of 3-5/8 inches by 2-3/4 inches. The envelope shall be made from a heated sealable barrier material, one layer of which is a minimum of 0.00035 inch thick aluminum foil. All four edges of the envelope shall be heat-sealed with seals not less than 1/8 inch wide. The sealed envelope shall not leak when examined in accordance with Section E-6, B. (1). There shall be no crushed, misshapen or unclean envelopes.

B. Intermediate packaging. When specified, ten envelopes of non-dairy creamer, as specified above, shall be packed in a close fitting bag made from clear, food grade polyethylene film having a minimum thickness of 0.003 inches. Closure shall be by folding the open end down over the body of the bag and taping.

D-2 LABELING

A. Labeling. Each envelope shall be clearly printed or stamped in a manner that does not damage the envelope, with permanent black ink or any other contrasting color, which is free of carcinogenic elements. The following information shall be printed on the envelope at random provided that the complete information appears at least once on the envelope:

CREAMER, NON-DAIRY, DRY
(letters not less than 1/8 inch high)

FOR COFFEE OR TEA
4 GRAMS NET WEIGHT

Dissolve contents in 1/3 canteen cup (8 oz) of beverage
Name and address of manufacturer

D-3 PACKING

A. Packing for shipment to ration assembler. Not more than 40 pounds of pouched product shall be packed in a fiberboard shipping container constructed in accordance with style RSC-L, class domestic, variety SW, grade 200 of ASTM D5118/D5118M-95(2001) Standard Practice for Fabrication of Fiberboard Shipping Boxes. Each container shall be securely

closed in accordance with ASTM D1974-98 Standard Practice for Methods of Closing, Sealing, and Reinforcing Fiberboard Boxes.

D-4 MARKING

A. Shipping containers. Shipping containers shall be marked in accordance with DPSC FORM 3556, Marking Instructions for Shipping Cases, Sacks and Palletized/Containerized Loads of Perishable and Semiperishable Subsistence.

SECTION E INSPECTION AND ACCEPTANCE

The following quality assurance criteria, utilizing ANSI/ASQC Z1.4-1993, Sampling Procedures and Tables for Inspection by Attributes, are required. Unless otherwise specified, Single Sampling Plans indicated in ANSI/ASQC Z1.4-1993 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 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 Soldier & Biological Chemical Command
Soldiers System Ctr., Natick Soldier Center
Attn: AMSSB-RCF-F(N)
15 Kansas Street
Natick, MA 01760-5018

One lot shall be randomly selected during each calendar month of production. Six (6) sample units of each item produced shall be randomly selected from that one production lot. The six (6) 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 Section C of this Packaging Requirements and Quality Assurance Provisions document utilizing the double sampling plans indicated in ANSI/ASQC Z1.4 - 1993. The lot size shall be expressed in envelopes. The sample unit shall be the contents of one envelope. 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
Major	Minor	
101		Product not dry, non-dairy creamer.
102		Presence of any objectionable flavor or odor, such as, malty, tallowy, soapy, bitter, beany, or painty.
103		Product does not dispense within 15 seconds or shows evidence of curdling, feathering or undissolved particles.
104		Product does not impart a sweet, creamy flavor.
	201	Presence of lumps. 3/
	202	Not a free flowing granular powder.
	203	Not white or light cream color.
	204	Net weight not as specified.

1/ Presence of any foreign material such as, but not limited to dirt, insect parts, hair, wood, glass, metal, or foreign odors or any flavors such as, but not limited to burnt, scorched, rancid, sour, or stale 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/ Lumps that do not fall apart under light pressure between the fingers shall be scored as a defect.

B. Methods of Inspection.

(1) Shelf life. The contractor shall provide a certificate of conformance that the product has a 3 year 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 shall be determined by weighing each sample on a suitable scale tared with a representative empty envelope. Results shall be reported to the nearest 0.1 gram.

(3) Dispersability test. To 8 ounces (227 ml) of potable water at 175°F to 180°F (79°C to 82°C) contained in a clean transparent glass vessel, add 2.5 grams of instant coffee. Add 4 grams of dry cream substitute and observe for product dissolving in 15 seconds, no evidence of curdling, feathering, or undissolved particles. After observing this, stir the coffee for 15 seconds. Observe the whitening power of the cream substitute, which shall be equivalent to the color rendered by addition of homogenized milk to coffee prepared in the same manner 1/. There shall be no sediment on the bottom of the vessel after one minute of standing following the stirring. The sample for inspection shall be a 4 gram composite drawn from the number of sample units called for by Table I. Nonconformance to one or more of the requirements shall be cause for rejection of the lot.

1/ To a second 8 ounce (227 ml) portion of prepared coffee add 1 ounce (30 ml) of homogenized milk.

(4) Salmonella and microbiological testing. The filled and sealed pouches shall be tested as specified in A-A-20043A, and this NOTE shall be applied to that testing process:

"NOTE: The following conditions apply for salmonella and microbiological testing:

(1) For prepackaged product received from a supplier and is not further processed, the contractor will furnish a Certificate of Analysis that the product represented is Salmonella Negative and meets all microbiological requirements.

(2) For bulk product received, the contractor is responsible for providing a certificate of analysis stating that the bulk product is Salmonella negative and meets all microbiological requirements. USDA salmonella and additional microbiological testing is required for each end item lot and shall be the basis for lot acceptance with respect to Salmonella and other microbiological testing requirements."

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

A. Packaging and labeling.

(1) Envelope material certification. Conformance to thickness of envelope laminate foil and polyethylene components and basis weight of paper component requirements shall be determined by certificate of conformance.

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

Category		Defect
Major	Minor	
101		Tear, hole, open seal, or sifter. 2/
102		Envelopes exceed maximum length and width (3-5/8 by 2-3/4 inches).
103		Crushed or misshapen resulting in two or more creases in the product area of the envelope.
104		Leakage. 3/
105		Seal separation. 3/
106		Delamination. 3/
107		Envelope not heat sealed on all four edges with minimum 1/8 inch wide seals.
108		Unclean.
109		Envelope has foreign odor.
	201	Label is missing, incorrect, or illegible.

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

2/ A sifter is an envelope which loses any amount of contents when shaken vigorously.

3/ Examine envelope after removal from leakage test apparatus.

B. Methods of Inspection.

(1) Leakage test. The 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. Any envelope 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 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 defect.

C. Packing.

(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 defects

Category		Defect
Major	Minor	
101		Marking omitted, incorrect, illegible, or improper size, location sequence or method of application..
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

DSCP FORMS

DSCP FORM 3556	Marking Instructions for Shipping Cases, Sacks and Palletized/ Containerized Loads of Perishable and Semiperishable Subsistence

NON-GOVERNMENTAL STANDARDS

AMERICAN SOCIETY FOR QUALITY (ASQ)

ANSI/ASQCZ1.4-1993	Sampling Procedures and Tables for Inspection by Attributes

ASTM International

D1974-98	Standard Practice for Methods of Closing, Sealing, and Reinforcing Fiberboard Boxes
D5118/D5118M-95 (2001)	Standard Practice for Fabrication of Fiberboard Shipping Boxes

AMSSB-RCF-FN (Valvano/4259) 14 August 2003

TO: DSCP-HRAC (Lowry/7773)

Subject: ES 03-094; DSCP-SS-03-03266; Document changes; inserting new verification conditions for microbiological and aflatoxin requirements

Date recv'd: 3 Apr 03

PKG&QA20043A
23 May 2003
Change 01 14 Aug 03
SUPERSEDING
31 January 2000

Date due: 24 Apr 03
Date extended: OPEN
Date replied: 14 August 03

Refs:
(a) Conference call (Natick/USDA/DSCP/User Services Reps/Vetcom), Feb 10, 2003, subject: Salmonella Testing, discuss issue from JSORF on salmonella testing of commercial vs. military products

(b) Follow up to ES02-189; dated 4 Mar 03, subject: Document changes, PCR-D-002 Dairyshake Powder, Fortified with Calcium and Vitamin D, Packaged in a Flexible Pouch; A-A-20043A Creamer, Nondairy, Dry; PKGQAP for A-A-20336 Coffees, Flavored, Instant, Powdered; MIL-C-3031J Cocoa Beverage Powder, inserting new verification conditions for Salmonella negative requirements

(c) Govt meeting at R&DA May 29 03, subject: Discuss verification for Salmonella, aflatoxin, and microbiology requirements

1. Based on the ref case, DSCP requested that Natick apply the same verification criteria for microbiological testing methods in the subject documents as well. Aerobic plate and standard plate and coliform counts and aflatoxin levels would be covered using this new verification process. The documents affected are as follows:

PKG&QAP for A-A-20043A Creamer, Nondairy, Dry
PKG&QAP for A-A-20336 Coffees, Flavored, Instant, Powdered
MIL-C-3031J Cocoa Beverage Powder
PCR-D-002 Dairyshake Powder, Fortified with Calcium and Vitamin D, Packaged in a Flexible Pouch
PCR-N-002 Nut Raisin Mix
PKG&QAP for A-A-20164B Nuts, Shelled
PKG&QAP for A-A-20328 Peanut Butter and Peanut Spread

2. In ref a and c, the discussion on Salmonella determined:

(a) Services restated the requirement that salmonella negative was a valid requirement; and

(b) Differences exist between product received in packets (and product not further processed except for overwrapping or placement in accessory or meal bag), and product

received in bulk and filled into packets for assembly, and whether a certificate of analysis (COA) is acceptable in lieu of testing.

3. Based on a review of the subject case and ref a and c, it was decided to include MICROBIOLOGICAL VERIFICATION with the salmonella statement. Separate statements will also be added for those items needing AFLATOXIN NEGATIVE VERIFICATION testing. These will be additional verifications added to the documents, which may already include the salmonella version.

4. Natick requests DSCP implement the changes cited below for the subject documents for all current, pending, and future procurements until the documents are formally amended or revised:

(a) In the documents (coffee flavored, cocoa beverage powder, nondairy creamer & dairyshake powder) section where the microbiological testing paragraph is specified, delete the current "salmonella statement" and insert the following statements at the end:

"NOTE: The following conditions apply for salmonella and microbiological testing:

(3) For prepackaged product received from a supplier and is not further processed, the contractor will furnish a Certificate of Analysis that the product represented is Salmonella Negative and meets all microbiological requirements.

(4) For bulk product received, the contractor is responsible for providing a certificate of analysis stating that the bulk product is Salmonella negative and meets all microbiological requirements. USDA salmonella and additional microbiological testing is required for each end item lot and shall be the basis for lot acceptance with respect to Salmonella and other microbiological testing requirements."

(b) In the documents (nuts shelled & nut raisin mix & peanut butter spread) section where the aflatoxin testing paragraph is specified, insert the following statements at the end:

"**NOTE**: The following conditions apply for aflatoxin testing on nuts shelled:

(1) For prepackaged product received from a supplier and is not further processed, the contractor will furnish a Certificate of Analysis that the aflatoxin in the roasted peanuts (in the case of roasted peanuts end item) represented is not greater than 15 parts per billion (ppb). No additional testing is required.
(2) For roasted peanuts received in bulk (to be used in roasted peanuts end item), the contractor shall have the bulk shipment sampled and tested by USDA. If (a) the bulk shipment is not more than 2 ppb for aflatoxin as evidenced by a USDA Certificate, (b) the end item lots are manufactured using that bulk product, and (c) both the bulk and end item lots' identities have been preserved, then no further aflatoxin testing is required.
(3) If roasted peanuts are received in bulk (to be used in roasted peanuts end item), and the conditions in (2) above are not met, each end-item lot must be sampled and tested by USDA. End item lots determined to be not greater than 15 ppb in aflatoxin as evidenced by a USDA Certificate will be considered acceptable. Bulk roasted peanuts with aflatoxin greater than 15 ppb shall not be used as ingredients."

"**NOTE**: The following conditions apply for aflatoxin testing on nut raisin mix:

(1) For prepackaged product received from a supplier and is not further processed, the contractor will furnish a Certificate of Analysis that the aflatoxin in the roasted peanuts (in the case of roasted peanuts end item) represented is not greater than 15 parts per billion (ppb). No additional testing is required.
(2) For roasted peanuts received in bulk (to be used in nut raisin mix end item), the contractor shall have the bulk shipment sampled and tested by USDA. If (a) the bulk shipment is not more than 2 ppb for aflatoxin as evidenced by a USDA Certificate, (b) the end item lots are manufactured using that bulk product, and (c) both the bulk and end item lots' identities have been preserved, then no further aflatoxin testing is required.
(3) If roasted peanuts are received in bulk (to be used in nut raisin mix end item), and the conditions in (2) above are not met, the bulk roasted peanut product may not be used as an ingredient. Rework or segregation of portions of the bulk lot, and further testing may be considered on a case by case basis."

"**NOTE**: The following conditions apply for aflatoxin testing on peanut butter spread:

(1) For prepackaged peanut butter received from a supplier and is not further processed, the contractor will furnish a Certificate of Analysis that the product represented is not greater than 15 ppb for aflatoxin.
(2) For bulk peanut butter received, the contractor is responsible for providing a USDA certificate of analysis stating that the bulk product is not greater than 15 ppb in aflatoxin. When end item lots are manufactured using that bulk peanut butter and both the bulk and end item lots' identities have been preserved, then no further aflatoxin testing is required.
(3) If peanut butter is received in bulk, and the conditions in (2) above are not met, each end-item lot must be sampled and tested by USDA. End item lots determined to be not greater than 15 ppb in aflatoxin as evidenced by a USDA Certificate will be considered acceptable. Bulk peanut butter with aflatoxin greater than 15 ppb shall not be used as an ingredient.

(c) With regard to the MRE components using roasted peanuts, the following note should be included in those applicable DSCP contracts in order that the end item contain the most recent crop of product:

"Note: A USDA certificate of analysis on roasted peanuts from the most recent crop year which have been kept in cold storage (between approximately 40-50 deg. F at low humidity) is acceptable. Contractor must attest to these storage conditions. If storage conditions for roasted peanuts are not established, a USDA certificate of analysis on roasted peanuts will be considered current if not more than 30 days have elapsed since the date of the analysis."

5. The changes will be made to the Natick prepared documents either in the item document or the PKGQAP supplement, as applicable. For DSCP prepared documents, the following notes apply:

(a) For A-A-20043A Creamer Nondairy Dry and A-A-20336 Cofees Flavored, Instant, the microbiological testing for standard plate and coliform counts is specified in the CID. Normally DSCP would need to make a change to the CID; however, in this case, Natick will insert the salmonella and microbiological verification in the PKGQAP for these items in the methods of inspection section.

(b) For A-A-20164B Nuts, Shelled and A-A-20328 Peanut Butter, the aflatoxin testing is specified in the CID. Normally DSCP would need to make a change to the CID; however, in this case, Natick will insert aflatoxin verification in the PKGQAP for these items in the methods of inspection section.

6. The updated applicable document files are attached with this message.

7 attachments

DONALD A. HAMLIN
Team Leader
Food Engineering Services Team
Combat Feeding Directorate

R Valvano

CF: NSC:

Aylward	Trottier
Bennett	Valvano
Friel	Arcidiocona
Hamlin	
Hill	
Richards	
Sherman	

CF: DSCP & SVCs:

Anthony	Beward
Arthur	Malason
Ferrante	Miller
Galligan	Richardson H.
Kavanagh	Salerno
Lowry	