INCH-POUND

MIL-DTL-32347
4 March 2010
W/CHANGE 02 23 Jun 2015 ES15-062 (DSCP-SS-15-01170)

DETAIL SPECIFICATION

FILLED WRAP, SHELF STABLE, FOR OPERATIONAL RATIONS

This specification is approved for use by all Departments and Agencies of the Department of Defense.

1. SCOPE

1.1 Scope. This specification covers a shelf stable filled wrap in a flexible pouch intended for use by the Department of Defense as a component of operational rations.

1.2 Classification. The product will be of the following types as specified (see 6.1):

1.2.1 Types. The types are as follows:

Type I - Barbecued seasoned pork
Type II - Mexican style beef

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.

Comments, suggestions, or questions on this document should be addressed to US Army Research, Development and Engineering Command, Natick Soldier Research, Development and Engineering Center, RDNS-CFF, 15 Kansas St., Natick, MA 01760-5056 or emailed to Ray.Valvano@us.army.mil. Since contact information can change, you may want to verify the currency of this address information using the ASSIST Online database at http://assist.daps.dla.mil/.

AMSC N/A FSC 8940

DISTRIBUTION STATEMENT A. Approved for public release; distribution is unlimited.

2.2 Government documents.

2.2.1 Specifications, standards, and handbooks. None.

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 of these documents are those cited in the solicitation or contract.

U.S. ARMY RESEARCH, DEVELOPMENT AND ENGINEERING COMMAND

PCR-T-008, Tortillas, Packaged in a Flexible Pouch, Shelf Stable

(Copies of this document are available from U.S. Army Research, Development and Engineering Command, Natick Soldier Research, Development and Engineering Center, RDNS-CFF, 15 Kansas St., Natick, MA 01760-5056.)

U.S. DEPARTMENT OF AGRICULTURE (USDA)

Meat and Poultry Inspection Regulations promulgated thereunder (9 CFR Parts 300-599)

(Copies of these documents are available online at www.usda.gov or from the Superintendent of Documents, ATTN: New Orders, P.O. Box 371954, Pittsburgh, PA 15250-7954.)

U.S. DEPARTMENT OF HEALTH AND HUMAN SERVICES

Federal Food, Drug, and Cosmetic Act and regulations promulgated thereunder (21 CFR Parts 1-199)

(Copies of this document are available online at www.gpoaccess.gov/nara or from the Superintendent of Documents, ATTN: New Orders, P.O. Box 371954, Pittsburgh, PA 15250-7954.)

U.S. ENVIRONMENTAL PROTECTION ACENCY (EPA)

National Primary Drinking Water Regulations

(Copies of this document are available online at www.epa.gov or from the Office of Drinking Water, Environmental Protection Agency, WH550D, 401 M Street, SW, Washington, DC 20460.)

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.

AOAC INTERNATIONAL

Official Methods of Analysis (OMA) of AOAC International

(Copies of this document are available from www.aoac.org or AOAC International, 481 North Frederick Avenue, Suite 500, Gaithersburg, MD 20877.)

AMERICAN ASSOCIATION OF CEREAL CHEMISTS (AACC)

Approved Methods of the American Association of Cereal Chemists

(Copies of this document are available from www.aaccnet.org or American Association of Cereal Chemists, 3340 Pilot Knob Road, St. Paul, MN 55121.)

AMERICAN DEHYDRATED ONION AND GARLIC ASSOCIATION (ADOGA)

Official Standards and Methods of the American Dehydrated Onion and Garlic Association for Dehydrated Onion and Garlic Products

(Copies of this document are available from www.CLFP.com or American Dehydrated Onion and Garlic Association, 980 9th Street Suite 230, Sacramento, CA 95814.)

AMERICAN NATIONAL STANDARDS INSTITUTE (ANSI)

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

(Copies of this document are available from www.asq.org or ASQ, 600 North Plankinton Ave., Milwaukee, WI 53203.)

NORTH AMERICAN MEAT PROCESSORS ASSOCIATION

Meat Buyers Guide

(Copies of this document are available from www.namp.com or North American Meat Processors Association, 1910 Association Drive, Reston, VA 21091.)

UNITED STATES PHARMACOPEIA

Food Chemicals Codex

(Copies of this document are available from www.usp.org or United States Pharmacopeia, 12601 Twinbrook Parkway, Rockville, MD 20852.)

2.4 Order of precedence. 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 Product standard. When specified (see 6.1), a sample shall be subjected to first article (FA) or product demonstration model (PDM) inspection as applicable, in accordance with 4.2. 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 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.

3.2 Ingredients. All ingredients shall be clean, sound, wholesome, and free from foreign material, evidence of rodent or insect infestation, extraneous material, off-flavors, off-odors, and off-colors. All ingredients shall meet and be in accordance with good commercial manufacturing practices.

3.2.1 Tortilla. For types I and II, tortillas used shall be in compliance with PCR-T-008A. The tortillas shall be thin and round and shall be not greater than 7.0 inches (17.78 cm) in diameter. The average net weight of two tortillas shall be not less than 2.1 ounces (60 grams). Tortillas may be received in bulk.

3.2.2 Pork loin. Pork loins shall be fresh-chilled or fresh-frozen and prepared from North American Meat Processors Association (NAMP) Item Number 413 Pork Loin, Boneless or descending hierarchical NAMP Item Numbers (e.g. 413A) and be trimmed practically free of all surface fat. The chemical lean of the pork loins shall not be less than 90 percent. If fresh-chilled pork loins are utilized, they shall maintain an internal temperature of not less than 28°F (-2.2°C) or not higher than 40°F (4.4°C) for a period of time not to exceed five (5) days prior to further processing or freezing. If fresh-frozen pork loins are utilized, they shall maintain an internal temperature not to exceed 0°F (-18°C) for a period of time not to exceed 120 days following initial freezing and prior to further processing. The pork loins shall be certified by the vendor Certificate of Conformance (CoC) identifying the pork cut NAMP Item No., time/temperature controls, excellent condition and processing requirements.

3.2.3 Beef round, top. Beef top rounds shall be fresh-chilled or fresh-frozen and prepared from NAMP Item Number 168 Beef Round, Top (Inside) and be trimmed practically free of all surface fat. The chemical lean of the beef top rounds shall not be less than 90 percent.

The beef shall be free of heavy connective tissue. If fresh-chilled beef top rounds are utilized, they shall maintain an internal temperature of not less than 28°F (-2.2°C) or not higher than 40°F (4.4°C) for a period of time not to exceed five (5) days prior to further processing or freezing. If fresh-frozen beef top rounds are utilized, they shall maintain an internal temperature not to exceed 0°F (-18°C) for a period of time not to exceed 120 days following initial freezing and prior to further processing. The beef top rounds shall be certified by the vendor CoC identifying NAMP Item No. 168, time/temperature controls, excellent condition and processing requirements.

3.2.4 Ingredients for spice mix used in types I and II.

3.2.4.1 Barbecue seasoning. The barbecue seasoning blend shall be a reddish brown powder and possess a spicy, salty, slightly sweet flavor with a hint of garlic, onion, and hickory smoke. The barbecue seasoning blend should include, but is not limited to, the following ingredients: spices (celery seed, coriander, black pepper, and red pepper), paprika, salt, onion, and garlic.

3.2.4.2 Pepper, black, ground. Ground black pepper shall have been ground from the deep brown to black, deep-set wrinkled, immature berries of *Piper nigrum L*. The ground pepper shall have a characteristic, penetrating odor, a hot biting pungent flavor and a light gray to speckled black-gray color. The ground pepper shall contain not less than 2.0 ml of volatile oil per 100 grams of ground black pepper and be of such size that 95 percent shall pass through a U.S. Standard No. 16 sieve.

3.2.4.3 Pepper, red, ground. Ground red pepper shall be derived from red, ripe fruit of *Capsicum fructesens L*. and shall possess the characteristic yellowish-red to red color. The Scoville Pungency Value shall be not less than 30,000 units. The red pepper shall be uniformly ground to allow a minimum of 95 percent, by weight, to pass through a U.S. Standard No. 40 sieve, and not less than 95 percent, by weight, to be retained on a U.S. Standard No. 60 sieve.

3.2.4.4 Chili powder blend. The chili powder blend shall have a reddish brown color and be free from lumps. The chili powder blend should include, but is not limited to, the following ingredients: ground chili pepper, cumin, oregano, salt, and garlic powder.

3.2.4.5 Garlic powder. Garlic powder shall be Fancy Grade of the Official Standards and Methods of the American Dehydrated Onion and Garlic Association for Dehydrated Onion and Garlic Products.

3.2.4.6 Cumin, ground. Ground cumin shall be derived from dried seeds of *Cuminum cyminum L*. and shall possess a strong, distinctive aromatic odor and flavor and a yellow-brown color.

3.2.4.7 Jalapeno powder. Ground jalapeno pepper shall be prepared from the dried fruit of genus *Capsicum annuum*. It shall be green to brownish-green powder with Scoville heat unit range from 20,000 to 40,000 Scoville Units (SU).

3.2.4.8 Oregano, ground. Ground oregano shall be derived from the dried leaves of *Origanum vulgare L*. and shall have a strong camphoraceous aroma and a pungent, slightly bitter flavor. Volatile oil content shall be not less than 2.0 ml per 100 grams and the oregano shall be of such size that not less than 95 percent shall pass through a U.S. Standard No. 30 sieve.

3.2.4.9 Salt. Salt shall be iodized, white, refined, sodium chloride, with or without anticaking agent.

3.2.4.10 Encapsulated vinegar powder. Encapsulated vinegar powder shall comply with the Food Chemicals Codex. The encapsulated vinegar powder shall consist of 58 to 62 percent vinegar powder encapsulated with 38 to 42 percent vegetable oil. The vegetable oil shall have a melting point of 150°F to 158°F (66ºC to 70ºC). The encapsulated vinegar powder shall have a 5 percent maximum on #14 Mesh Screen (USSS).

3.2.5 Ingredients for sauce mix used in types I and II.

3.2.5.1 Barbecue sauce. The barbecue sauce may contain ingredients such as, but not limited to, high fructose corn syrup or other sweeteners, water, tomato concentrate [water and tomato paste (tomato concentrates shall comply with the standard of identity in 21 CFR Part 155 Section 191)], distilled vinegar, molasses, fruit purees, spices, salt, modified food starch, xanthan gum or guar gum, natural flavors, and other ingredients characteristic of each flavor.

3.2.5.2 Glycerol. The glycerol shall comply with the Food Chemicals Codex.

3.2.5.3 Onion, dehydrated, chopped. Dehydrated chopped onions shall be Fancy Grade of the Official Standards and Methods of the American Dehydrated Onion and Garlic Association for Dehydrated Onion and Garlic Products.

3.2.5.4 Smoke flavoring. Smoke flavoring shall be an aqueous solution of natural maple and/or oak wood smoke and shall be dark brown-black in color with a clean smoke odor. The smoke flavoring shall have a titratable acidity of 6.2 to 7.2 percent (expressed as acetic acid), a carbonyl level (butanone-2) of 7.0 to 8.0 grams per 100 ml and the smoke flavoring compounds (phenols) shall be 6.0 to 9.0 mg per mL.

3.2.5.5 Tomato paste. Tomato paste shall be Grade A as defined by the U.S. Standards for Grades of Canned Tomato Paste.

3.2.5.6 Rice syrup, clarified. The rice syrup should be a clarified low conversion rice syrup. The syrup shall have a sweet taste, and gold to amber color. It shall have a pH of 6.0 to 6.6, a 5

percent concentration shall have a clarity not greater than 85 percent transmission at 800 nm and a minimum Brix of 77 degrees Brix. The clarified rice syrup shall have a dextrose equivalent (DE) of 20 to 30.

3.2.5.7 Rice vinegar, white. The white rice vinegar shall be made by natural fermentation process that has a final acidity level of 90 to 100 grain (9 to 10 percent acetic acid). Appearance shall be clear, transparent, and light yellow in color.

3.2.6 Cheddar cheese, flakes. The cheddar cheese flakes shall be a yellow orange color and have a maximum flake size of 3.2 mm (1/8 inch) by 3.2 mm (1/8 inch) by 3.2 mm (1/8 inch) to 38.1 mm (1-1/2 inches). Water activity shall not be greater than 0.88 at 77°F (25°C). (See 6.2.1)

3.3 Preparation and processing.

3.3.1 Preparation and processing of pork filling used in type I. The pork filling shall be formulated from the following ingredients in the proportions specified:

Ingredient	Percent by weight
Pork loin	94.60
Barbecue flavor, ground 1/	5.20
Pepper, black 1/	0.10
Pepper, red 1/	0.10

1/ Spices shall be weighed to the one-hundredth decimal place.

a. The seasoned pork shall be prepared as follows:

(1) The pork shall be tempered to 28ºF to 32ºF (-2°C to 0°C) then flaked or shaved through a Comitrol in order to achieve pieces approximately 1/4 inch thick.

(2) In steam jacketed kettle with a surface swept mixer or equivalent equipment, cook pork on medium heat mixing constantly, a water activity of less than 0.98 should be reached. Excess liquid may be drained off to expedite process.

(3) Combine ground barbecue flavor, black pepper and red pepper; add to pork while continuously mixing and cook until uniformly dispersed.

b. The barbecue sauce shall be prepared as follows:

Ingredient	Percent by weight
Barbecue sauce	83.40
Glycerol	11.50
Onions, dehydrated	2.90
Salt	1.60
Smoke flavoring	0.60

(1) Combine barbecue sauce and dehydrated onions in a steam jacketed kettle or equivalent equipped with a swept surface mixer or use constant manual stirring to prevent scorching. Heat contents to a simmer. A water activity of less than 0.85 should be reached.

(2) Add glycerol, smoke flavor and salt; then continue to simmer. A water activity of less than 0.72 should be reached. Remove from heat.

c. Combine sauce mix and seasoned pork in steam jacketed kettle equipped with a swept surface mixer or use constant manual stirring to prevent scorching, and cook until product is completely uniform and a water activity of 0.80 to 0.85 shall be reached.

d. If the process is not continuous, the mixture shall be held at 40ºF (4ºC) or less for not more than 48 hours or frozen to 0ºF (-18ºC) or below within 72 hours and held for not more than 60 days. The mixture shall be stored in containers that are adequate to protect from freezer deterioration or damage and maintain the product in excellent condition.

3.3.2 Preparation and processing of beef filling used in type II. The beef filling shall be formulated from the following ingredients in the proportions specified:

Ingredient	Percent by weight
Beef, top round	93.30
Chili powder 1/	4.80
Garlic powder 1/	0.50
Cumin, ground 1/	0.35
Pepper, red, ground 1/	0.35
Pepper, black 1/	0.26
Jalapeno powder 1/	0.23
Oregano ground 1/	0.21

1/ Spices shall be weighed to the one-hundredth decimal place.

a. The seasoned beef shall be prepared as follows:

(1) The beef shall be tempered to 28ºF to 32ºF (-2°C to 0°C) then flaked or shaved through a Comitrol in order to achieve pieces approximately 1/4 inch thick.

(2) In a steam jacketed kettle with a surface swept mixer or equivalent equipment, cook beef on medium heat mixing constantly. A water activity of less than 0.99 should be reached.

(3) Combine spices; add to beef while continuously mixing and cook until uniformly dispersed. A water activity of less than 0.97 should be reached.

b. The sauce shall be prepared as follows:

Ingredient	Percent by weight
Tomato paste	39.86
Rice syrup	20.16
Glycerol	16.92
Rice vinegar	11.00
Onions, dehydrated	5.33
Salt	4.63
Encapsulated vinegar	2.10

(1) Combine tomato paste, vinegar and dehydrated onions into steam jacketed kettle or equivalent equipped with a swept surface mixer or constant manual stirring to prevent scorching.

(2) Heat contents to a simmer and continue cooking. A water activity of less than 0.96 should be reached.

(3) Add rice syrup and glycerol and simmer at a moderate heat until a water activity of less than 0.77 is reached.

(4) Add salt and encapsulated vinegar and continue to simmer. A water activity of less than 0.74 should be reached.

c. Combine sauce mix and seasoned beef in steam jacketed kettle equipped with a swept surface mixer or use constant manual stirring to prevent scorching, and cook until product is completely uniform and a water activity of 0.80 to 0.85 shall be reached.

d. If the process is not continuous, the mixture shall be held at 40ºF (4ºC) or less for not more than 48 hours or frozen to 0ºF (-18ºC) or below within 72 hours and held for not more than 60 days. The mixture shall be stored in containers that are adequate to protect from freezer deterioration/damage and maintain the product in excellent condition.

3.3.4 Forming wraps. For type I, a minimum of 35 grams of pork filling shall be deposited evenly over the tortilla. For type II, a minimum of 6 grams of cheddar cheese shall be deposited evenly over the surface of the tortilla; and a minimum of 35 grams of beef filling shall be

deposited evenly over the cheese and tortilla. For types I and II, the tortilla shall be rolled with one end folded and place on baking pan, seam side down.

3.3.5 Baking. The filled wrap shall be fully baked to a minimum internal temperature of 160°F (71°C). Adequate steam injection may be applied at the onset of baking to prevent scorching of the tortilla as long as the water activity is met.

3.4 Packaging methods. Continuous method shall be used. Two filled wraps and one oxygen scavenger shall be placed into the pouch. The internal temperature of the wrap shall be not greater than 135ºF (57ºC).

3.4.1 Oxygen scavenger. The oxygen scavenger shall be constructed of materials that are safe for direct and indirect food contact, and shall be suitable for use with edible products. The oxygen scavenger shall be in compliance with all applicable FDA regulations.

3.5 Finished product requirements. The finished product shall comply with the following requirements:

a. There shall be no foreign materials such as, but not limited to dirt, insect parts, hair, wood, glass, metal or mold.

b. There shall be no foreign odors or flavors such as, but no limited to burnt, scorched, moldy, rancid, sour or stale.

c. There shall be no color foreign to the product.

d. No individual pouch shall contain less than 4.4 ounces (125 grams) of product.

e. Each pouch shall contain two intact wraps and one intact oxygen scavenger.

f. The water activity for any individual pouch shall be not less than 0.80 and not greater than 0.85 when measured at 77ºF (25ºC).

g. The oxygen content of the filled and sealed pouches shall not exceed 0.30 percent after 48 hours from time of sealing.

h. The pH shall not exceed 5.5.

i. The texture of the tortilla shall be soft and not be excessively dry or crumbly.

j. The tortilla shall be uniform medium tan color and shall not be overly dry or brown or burnt at the edges.

k. The tortilla shall have a slight white grain odor and flavor, no burnt notes shall be present.

l. The meat filling shall be slightly dry to moist.

m. The filling shall be enrobed by the tortilla and shall not be leaking out of the tortilla.

n. The type I filling shall have a cooked pork, sweet barbecue, mild hickory, mild red pepper odor and flavor.

o. The type II filling shall have a tomato, chili powder and cooked beef flavor and odor.

p. For both types, meat shall be free from cartilage, coarse connective tissue, tendons or ligaments, glandular material, discolored meat, and bone or bone fragments.

3.5.1 Overall appearance and palatability. The finished product shall be equal to or better than the approved product standard sample (see 6.1) in palatability and overall appearance.

3.6 Plant qualifications. The meat component and the finished product shall originate and be produced, processed, and stored in plants regularly operating under Meat and Poultry Inspection Regulations of the U.S. Department of Agriculture. The product shall be prepared, processed and packaged in establishments meeting the requirements of 21 CFR, Part 110, "Current Good Manufacturing Practice in Manufacturing, Packaging, or Holding of Human Food," and the plant sanitation requirements of the appropriate government inspection agency.

3.7 Federal Food, Drug, and Cosmetic Act. All deliveries shall conform in every respect to the provisions of the Federal Food, Drug, and Cosmetic Act and regulations promulgated thereunder.

4. VERIFICATION

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

a. Product standard inspection (see 4.2).

b. Conformance inspection (see 4.3).

4.2 Product standard inspection. The first article or product demonstration model shall be inspected in accordance with the provisions of this specification and evaluated for overall appearance and palatability. Any failure to conform to the requirements or any appearance or palatability failure shall be cause for rejection of the lot. The approved product standard shall be used 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 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.

4.3 Conformance inspection. Conformance inspection shall include the examinations of 4.3.1, 4.3.2, 4.3.3 and the tests of 4.4.1 through 4.4.3.

4.3.1 Component and material examination. Components and materials shall be examined in accordance with all the requirements of referenced documents unless otherwise excluded, amended, modified, or qualified in this specification or applicable purchase document.

4.3.2 Ingredient and component examination. Conformance of ingredients and components to identity, condition, and other requirements specified in 3.2 shall be certified by the ingredient supplier or ingredient manufacturer, and compliance shall be verified by examination of pertinent labels, markings, US Grade Certificates, certificates of analyses, or other such valid documents acceptable to the inspection agency. If necessary, each ingredient shall be examined organoleptically or inspected according to generally recognized test methods such as the standard methods described in the Official Methods of Analysis (OMA) of the Association of Official Analytical Chemists and in the Approved Methods of the American Association of Cereal Chemists, to determine conformance to the requirements. Any nonconformance to an identity, condition, or other requirement shall be cause for rejection of the ingredient or component lot or of any involved product.

4.3.3 Product examination. The filled and sealed pouches shall be conditioned to 70ºF to 80ºF (21ºC to 27ºC) and examined for the defects listed in table I. The lot size shall be expressed pouches. The sample unit shall be the contents of one pouch. Utilizing the double sampling plans indicated in ANSI/ASQ Z1.4, 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.

TABLE I. Product defects. 1/ 2/

Category		Defect
Major	Minor	
101		Product not type as specified.
102		Pouch does not contain two intact filled wraps or does not contain one intact oxygen scavenger. 3/
103		Tortilla color not uniform medium tan.
104		Tortilla overly dry or brown and or burnt at the edges.
105		Tortilla not a slight white grain odor or flavor with no burnt notes.
106		Tortilla texture not soft.
107		Tortilla texture excessively dry or crumbly.
	201	Filling not enrobed in tortilla.
	202	Filling leaking out of tortilla.
	203	Total weight of cartilage, coarse connective tissue, tendons or ligaments, glandular material, discolored meat, and bone or bone fragments more than 0.35 ounces.
108		Meat filling not slightly dry to moist.
109		Tear or hole or open seal in oxygen scavenger.
110		Type I filling not cooked pork, or not sweet barbecue or not mild hickory or not mild red pepper odor or flavor.
111		Type II filling not tomato or not chili powder or not cooked beef flavor or odor.
	204	Net weight of two individual filled wraps less than 4.4 ounces (125 grams). 4/

1/ Presence of any foreign materials for example, dirt, insect parts, hair, wood, glass, metal or mold, or any foreign odors or flavors such as, but not limited to burnt, scorched, moldy, rancid, sour, stale, or foreign color 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 (see 3.5.1).

3/ Construction of the oxygen scavenger and compliance with FDA regulations will be verified by Certificate of Conformance.

4/ 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 and one oxygen scavenger pouch. Results shall be reported to the nearest 0.1 ounce or to the nearest one gram.

4.4 Tests.

4.4.1 Water activity (Aw) testing. Eight filled and sealed pouches shall be selected at random from the lot regardless of lot size. Water activity shall be determined not less than 4 days but not more than 14 days after baking to allow moisture equilibration in the product. The pouched product shall be individually tested for Aw in accordance with the Official Methods of Analysis (OMA) of the AOAC method 978.18, using an electric hygrometer system self temperature controlled at 77ºF (25ºC) or an equivalent instrument. Each individual sample unit shall be ground prior to Aw analysis. A household food processor (e.g. Kitchen Aid Healthful Food Processor) may be used for grinding (ensure that the unit is thoroughly dried before use). The results of each Aw determination shall be reported to the nearest 0.01. Any test result not conforming to the Aw requirement in 3.5 shall be classified as a critical defect and the lot shall be rejected.

4.4.2 Oxygen content testing. Eight filled and sealed pouches shall be randomly selected from one production lot and individually tested for oxygen content. Testing shall be accomplished after the filled and sealed pouches have been allowed to equilibrate at room temperature for not less than 48 hours from the time of sealing. Test results shall be reported to the nearest 0.01 percent. Any test result not conforming to the oxygen content requirement in 3.5 shall be classified as a major defect and shall be cause for rejection of the lot.

4.4.3 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 Official Methods of Analysis (OMA) of AOAC International.

Test	Method Number
pH	981.12

Test results of pH value shall be reported to the nearest 0.1. Government verification will be conducted through actual testing by a Government laboratory. Any result not conforming to the pH requirement in 3.5 shall be cause for rejection of the lot.

5. PACKAGING

5.1 Packaging. For acquisition purposes, the packaging requirements shall be as specified in the contract or order (see 6.1). When actual packaging of material is to be performed by DoD 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 activity within the Military Department or Defense Agency, or within the Military Department's System Command. 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 that may be helpful, but is not mandatory.)

6.1 Acquisition requirements. Acquisition documents should specify the following:

a. Title, number, and date of this specification.
b. Type of product required (see 1.2).
c. When other than first article or product demonstration model is required (see 3.1).
d. Provisions for approved product standard samples (see 3.5.1).
e. Packaging requirements (see 5.1).

6.2 Ingredient information.

6.2.1 Cheddar cheese, flakes. Thiel Cheese & Ingredients, LLC, N7630 County Highway BB, Hilbert, WI 54129 meets the requirement of 3.2.6 and performs satisfactorily in this product.

6.3 Shelf life. This specification covers items where shelf life is a consideration. Specific shelf-life requirements should be specified in the contract or purchase order. The shelf-life codes are contained in the Federal Logistics Information System Total Item Record. Additive information for shelf-life management may be obtained from DoD 4140.27-M; Shelf-life Management Manual, or the designated shelf-life Points of Contact (POC). The POC should be contacted in the following order: (1) the Inventory Control Points (ICPs), and (2) the DoD Service and Agency administrators for the DoD Shelf-Life Program. Appropriate POCs for the DoD Shelf-Life Program can be contacted through the DoD Shelf-Life Management website: http://www.shelflife.hq.dla.mil/.

6.4 Subject term (key word) listing.

Combat field feeding
Bread

Custodians:
Army - GL
Navy - SA
Air Force - 35

Review activities:
Army - MD, QM
Navy - MC
DLA - SS

Civil agency:
USDA-FV

Preparing activity:
Army - GL
(Project 8940-2010-002)

NOTE: The activities listed above were interested in this document as of the date of this document. Since organizations and responsibilities can change, you should verify the currency of the information above using the ASSIST Online database at http://assist.daps.dla.mil/.

For DLA Troop Support Website Posting

RDNS-SEC-R 23 June 2015

TO: DLA Troop Support - Subsistence

SUBJECT: ES15-062 (DSCP-SS-15-01170); Document change request to MIL-DTL-32347, Filled Wrap, Shelf Stable, to replace vegetable shortening with non-hydrogenated palm oil shortening

1. Natick requests a change to remove fractional partially hydrogenated cottonseed/soybean oil and replace it with palm kernel oil.

2. The change is a result of the recent publication of a technical report titled "FINAL REPORT ON THE ASSESSMENT, OCCURRENCE, AND REDUCTION OF TRANS FATTY ACID IN REPRESENTATIVE MILITARY RATION COMPONENTS". This technical report contains necessary shelf life study information on these components, specifically on the quality of these components when subjected to 6 months at 100°F storage. Formulations were modified to contain non-hydrogenated shortening in place of fractional partially hydrogenated shortening.

3. A long term storage study of 3 years at 80°F is in process.

4. Natick submits the following changes to subject document for all current, pending, and future procurements until the document is formally amended or revised:

a. Page 4, Section 3.2.1 Tortilla, first sentence, after "PCR-T-008" insert "A".

5. Attached is Change 02, MIL-DTL-32347 Filled Wrap, Shelf Stable, dated 23 June 2015, with the changes highlighted.