INCH-POUND

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SUPERSEDING
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MILITARY SPECIFICATION

CHEESE, AMERICAN, PROCESS, DEHYDRATED

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

1. SCOPE

1.1 Scope. This specification covers sharp, dehydrated, American process cheese for use by the Department of Defense as an item of general use.

2. APPLICABLE DOCUMENTS

2.1 Government documents.

2.1.1 Specifications, standards, and handbooks. The following specifications, standards, and handbooks form a part of this document to the extent specified herein. Unless otherwise specified, the issues of these documents are those listed in the issue of the Department of Defense Index of Specifications and Standards (DODISS) and supplement thereto, cited in the solicitation (see 6.2).

SPECIFICATIONS

FEDERAL

TT-C-495 - Coatings, Exterior, for Tinned Food Cans
PPP-B-636 - Boxes, Shipping, Fiberboard

AMSC N/A FSC 8910

unlimited.

MILITARY

MIL-L-1497 - Labeling of Metal Cans for Subsistence Items
MIL-L-35078 - Loads, Unit: Preparation of Semiperishable Subsistence Items; Clothing, Personal Equipment and Equipage; General Specification For

STANDARDS

MILITARY

MIL-STD-105 - Sampling Procedures and Tables for Inspection by Attributes
MIL-STD-129 - Marking for Shipment and Storage

(Unless otherwise indicated, copies of federal and military specifications, standards, and handbooks are available from the Standardization Documents Order Desk, Building 4D, 700 Robbins Avenue, Philadelphia, PA 19111-5094.)

2.1.2 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 are those cited in the solicitation.

ENVIRONMENTAL PROTECTION AGENCY (EPA)

National Primary Drinking Water Regulations

(Copies are available from the Office of Drinking Water, Environmental Protection Agency, WH550D, 401 M Street, S.W., Washington, DC 20460.)

U.S. DEPARTMENT OF AGRICULTURE (USDA)

U.S. Standards for Grades of Bulk American Cheese for Manufacturing
U.S. Standards for Grades of Cheddar Cheese
U.S. Standards for Grades of Colby Cheese
Dairy Plants Surveyed and Approved for USDA Grading Service
General Specification for Approved Dairy Plants and Standards for Grades of Dairy Products

(Copies are available from the Dairy Division, Agricultural Marketing Service, U.S. Department of Agriculture, Room 2750, South Building, P.O. Box 96456, Washington, DC 20090-6456.)

U.S. Standards for Condition of Food Containers

(Copies are available from the Chairman, Condition of Container Committee, Agricultural Marketing Service, U.S. Department of Agriculture, Room 2506, South Building, P.O. Box 96456, Washington, DC 20090-6456.)

U.S. DEPARTMENT OF HEALTH AND HUMAN SERVICES

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

(Copies are available from the Superintendent of Documents, U.S. Government Printing Office, Washington, DC 20402-0001.)

2.2 Non-Government publications. The following documents form a part of this document to the extent specified herein. Unless otherwise specified, the issues of the documents which are DoD adopted are those listed in the issue of the DODISS cited in the solicitation. Unless otherwise specified, the issues of documents not listed in the DODISS are the issues of the documents cited in the solicitation (see 6.2).

AMERICAN ASSOCIATION OF CEREAL CHEMISTS (AACC)

Approved Methods of the American Association of Cereal Chemists

(Application for copies should be addressed to the American Association of Cereal Chemists, 3340 Pilot Knob Road, St. Paul, MN 55121).

AMERICAN PUBLIC HEALTH ASSOCIATION

Standard Methods for the Examination of Dairy Products

(Application for copies should be addressed to the American Public Health Association, 1015 8th Street, N.W., Washington, DC 20036.)

ASSOCIATION OF OFFICIAL ANALYTICAL CHEMISTS (AOAC)

Official Methods of Analysis of the Association of Official Analytical Chemists

(Application for copies should be addressed to the Association of Analytical Chemists, 2200 Wilson Boulevard, Suite 400-CD, Arlington, VA 22201-3301.)

NATIONAL ACADEMY OF SCIENCES

Food Chemicals Codex

(Application for copies should be addressed to the National Academy Press, 2101 Constitution Avenue, N.W., Washington, DC 20418.)

NATIONAL CHEESE INSTITUTE

Cheese Color Reference Standard

(Application for copies should be addressed to the National Cheese Institute, 110 N. Franklin Street, Chicago, IL 60606.)

NATIONAL MOTOR FREIGHT TRAFFIC ASSOCIATION, INC., AGENT

National Motor Freight Classification

(Application for copies should be addressed to the American Trucking Associations, Inc., Traffic Department, 2200 Mill Road, Alexandria, VA

22314.)

UNIFORM CLASSIFICATION COMMITTEE, AGENT

Uniform Freight Classification

(Application for copies should be addressed to the Uniform Classification Committee, Suite 1120, 222 South Riverside Plaza, Chicago, IL 60606.)

(Non-Government standards and other publications are normally available from the organizations that prepare or distribute the documents. These documents also may be available in or through libraries or other informational services.

2.3 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 First article. When specified (see 6.2), a sample shall be subjected to first article inspection (see 6.3) in accordance with 4.4.

3.2 Ingredients. All ingredients shall be clean, sound, wholesome, and free from foreign material, evidence of rodent or insect infestation, extraneous material, off-odors, off-flavors, and off-colors.

3.2.1 Cheese. Natural cheese meeting the requirements of 3.2.1.1 and 3.2.1.2, shall be used in the preparation of this product.

3.2.1.1 Cheddar cheese and colby cheese. Cheddar cheese shall be U.S. Grade B or better in accordance with the U.S. Standards for Grades of Cheddar Cheese. Colby cheese shall be U.S. Grade B or better in accordance with the U.S. Standards for Grades of Colby Cheese.

3.2.1.2 Bulk American cheese for manufacturing. Bulk American cheese for manufacturing shall be U.S. Standard Grade or better in accordance with the U.S. Standards for Grades of Bulk American Cheese.

3.2.2 Cream, anhydrous milkfat, or plastic cream. Cream, anhydrous milkfat, or plastic cream when used for standardizing the fat content shall meet the applicable finished product and analytical requirements outlined in the USDA General Specification for Approved Dairy Plants and Standards for Grades of Dairy Products. The cream, when used for standardizing, shall be a pasteurized product and shall not be over 72 hours old after pasteurizing.

3.2.3 Salt. Salt shall be noniodized, white, refined, sodium chloride with or without anticaking agents and shall comply with the purity standards for sodium chloride of the Food Chemicals Codex.

3.2.4 Coloring. Coloring shall be any certified cheese or butter coloring which complies with 3.7.

3.2.5 Emulsifying and acidifying agents. Emulsifying and acidifying agents shall be those permitted by the Federal Standards of Identity for

Process Cheese (21 CFR 133.169).

3.2.6 Packaging gas. The packaging gas shall be of food grade quality and shall consist of pure nitrogen or a mixture of nitrogen and approximately 10 percent carbon dioxide plus other inert gases of the atmosphere, but shall contain no more than 0.5 percent oxygen.

3.2.7 Water. Water used for rehydration and washing shall conform to the National Primary Drinking Water Regulations.

3.3 Processing.

3.3.1 Blending. The product shall be made from cured cheddar and/or colby cheese, as specified in 3.2.1.1 or bulk American cheese for manufacturing as specified in 3.2.1.2, or a blend of these cheeses in any proportion. The weighted average age of the cheeses in each blend shall be at least 8 months. The different lots of cheese blended together for making the product shall result in a typical sharp-cured process American cheese flavor.

3.3.2 Preparation. The natural cheese, when ready for grinding, shall be clean, free from impurities, mold, rind rot, soft spots, salt spots, thick dry rind, paraffin, cheese pests, or objectionable surface flavor. The process cheese shall be prepared by comminuting a blend of cheese as specified in 3.3.1 into a homogeneous mass. Cream, anhydrous milkfat, plastic cream emulsifying agents, coloring, salt, and acidifying agents may be added during the comminuting process. Lactose, milk solids-not-fat, whey, buttermilk, dairy blends, or whey cream shall not be added to the product.

3.3.3 Pasteurization, spray drying, cooling, and packaging conditions. The blend of cheese and other ingredients, if used, and as blended in 3.3.2,shall be pasteurized at a temperature of not less than 165^0F and with a holding time of not less than 30 seconds. The pasteurized cheese blend shall then be immediately spray dried in accordance with good commercial practice. The temperature of the spray dried product shall be reduced to less than 90^0F prior to packaging. Temperature reduction shall be accomplished by utilizing an air dehumidifying cooling system at the discharge of the spray drier which incorporates refrigerated air, liquid dehumidifying carbon dioxide, liquid nitrogen; or by placing the dehydrated cheese in cooler storage maintained at a temperature of not less than 40^0F. The temperature of the product at time of packaging shall be ambient temperature ($\pm$ 5^0F) so that condensation does not collect on the product, package or packaging equipment. The cooled product shall be filled into polyethylene-lined, multiwall bags. The polyethylene liner shall be secured either by tying or heat sealing to prevent moisture absorption, contamination or spillage during transportation or storage. Final packaging of the product shall not exceed 21 days from the date of spray drying.

3.4 Finished product.

3.4.1 Physical characteristics. The finished product shall be uniform in composition and appearance, free from lumps that do not fall apart under light finger pressure, free from burnt specks, and free from foreign material. Upon rehydration, the product shall readily attain a spreadable consistency. The rehydrated product shall be free from rancid, stale, oxidized, tallowy, bitter, fishy, soapy, scorched, or other objectionable flavors and odors. The flavor shall be that of a typical sharp-cured,

process cheddar cheese. The texture of the rehydrated cheese may be slightly grainy and mealy, and the appearance my be dull. The color of the product after rehydration shall not be lighter than Standard No. 1 and not darker than Standard No. 10 of the National Cheese Institute Cheese Color Reference Standard.

3.4.2 Analytical and microbiological requirements. The finished product shall comply with the following analytical and microbiological requirements:

Ingredient	Requirements
Fat	Not less than 48.0 percent
Moisture	Not more than 3.0 percent
Sodium chloride	Not more than 4.0 percent
Copper 1/	Not more than 3.0 percent
or oxygen in headspace gas 2/	Not more than 3.0 percent 3/
Standard aerobic plate count	Not more than 50,000 per gram
Coliform count	Not more than 90 per gram
Salmonellae	Negative 4/

1/ If all equipment and utensils coming into direct contact with the product during processing do not show exposed surfaces of copper and are made of noncopper bearing metals or alloys, and testing of product indicated compliance with requirements, subsequent testing for copper shall be on a reduced basis. Testing one lot from each contract or spot testing on a 3-month basis may be considered adequate, provided no exposed surfaces of copper or copper bearing metals or alloys are observed; otherwise, each product lot shall be tested.

2/ When the finished product has been nitrogen gas packed, the oxygen requirement shall be tested in lieu of the copper requirement. Oxygen shall be determined at least 7 days after packaging.

3/ The sample average shall not exceed 3.0 percent oxygen, and no individual sample shall exceed 4.5 percent.

4/ Negative in a 25 gram sample.

3.4.2.1 Phosphatase. The dehydrated cheese, after reconstitution on the basis of two parts powder and one part water (by weight) shall have a phosphatase activity of less than 1 mcg of phenol per ~~mL~~ gram of reconstituted product.

Comment [RDNS-CFF1]: ES13-040 (DSCP-SS-13-01014) 27 Sep 13, p. 6, 3.4.2.1 Phosphatase. After “per” delete “mL” insert “gram”.

3.5 Palatability. The finished product shall be equal to or better than the approved preproduction sample (see 6.2) in palatability and overall appearance.

3.6 Plant qualification. The product shall originate and be produced, processed, and stored in plants which are USDA approved by USDA: AMS: Dairy Division. All dairy ingredients shall originate from a USDA approved dairy plant as listed in Dairy Plants Surveyed and Approved for USDA Grading Service. All natural cheese shall be officially graded by USDA: AMS: Dairy Division.

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. QUALITY ASSURANCE PROVISIONS

4.1 Contractor's responsibility. Inspection and acceptance by the USDA shall not relieve the contractor of obligation and responsibility to deliver a product complying with all requirements of this specification. The contractor shall ensure product compliance prior to submitting the product to the USDA for any inspection.

4.2 Inspection and certification. Product acceptability shall be determined by the USDA. The USDA will determine the degree of inspection and supervision necessary to ensure compliance with the requirements of this specification.

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

a. First article inspection (see 4.4).
b. Quality conformance inspection (see 4.5).

4.4 First article inspection. When a first article is required (see 6.2), it shall be inspected in accordance with the quality assurance provisions of this specification and evaluated for overall appearance and palatability. Any failure to conform to the quality assurance provisions of this specification or any appearance or palatability failure shall be cause for rejection of the first article.

4.5 Quality conformance inspection. Unless otherwise specified, sampling for inspection shall be performed in accordance with MIL-STD-105.

4.5.1 Component and material inspection. In accordance with 4.1, components and materials shall be inspected in accordance with all the requirements of referenced documents unless otherwise excluded, amended, modified, or qualified in this specification or applicable purchase document.

4.5.1.1 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, U.S. 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 of the Association of Official Analytical Chemists and in the Approved Methods of the American Association of Cereal Chemists, to determine conformance to the condition requirements. Any nonconformance to any identity, condition, or other requirement shall be cause for rejection of the ingredient or component lot or of any involved product.

4.5.1.2 Unfilled can inspection. Conformance of unfilled cans to the requirements specified in 5.1.1 shall be determined by examination of certificates of conformance or of other valid documents. Any nonconformance shall be cause for rejection of the can lot or of any involved product.

4.5.2 In-process examination. Examination shall be performed during

the manufacture of the product to determine compliance with 3.3 concerning blending, preparation (including condition of natural cheese), pasteurization, and spray drying. Records of formulations, age of cheese used in the blend, processing times and temperatures shall be maintained and made available for examination. Noncompliance with one or more requirements, as determined by examination of records or by actual visual examination during processing, shall be cause for rejection of the involved finished product.

4.5.3 Net weight examination. The filled and sealed cans of product shall be examined for net weight. The net weight of the filled and sealed cans shall be determined by weighing each sample unit on a suitable scale tared with a representative empty can and lid. Results shall be reported to the nearest 1/4 ounce. Any individual net weight of less than 2 pounds 15 ounces shall be classified as a minor defect. The lot size shall be expressed in units of cans. The sample unit shall be one filled and sealed can. The inspection level shall be S-3, and the acceptable quality level (AQL), expressed in terms of defects per hundred units, shall be 2.5. In addition, the lot shall be rejected if the average net weight of the samples is less than 3 pounds.

4.5.4 Product examination. The finished product shall be examined for the defects listed in table I. The lot size shall be expressed in cans. The sample unit shall be one filled and sealed can. The inspection level shall be S-2, and the AQL, expressed in terms of defects per hundred units, shall be 1.5 for major defects and 6.5 for minor defects.

TABLE I. Product defects. 1/ 2/

Category		Defect
Major	Minor	Dehydrated cheese
101		Lumps that do not fall apart under light finger pressure.
102		Burnt specks.
	201	Not uniform in composition and appearance.
		Reconstituted cheese 3/
103		Not readily reconstituted to spreadable consistency.
	202	Color not as specified.
104		More than a slight grainy or mealy texture.
105		Does not have a sharp-cured, process cheddar flavor.

1/ The presence of any foreign material (for example, dirt, insect parts, hair, wood, glass, metal), foreign odor or flavor (for example, burnt, scorched, moldy, rancid, sour, stale), or foreign color shall be cause for rejection of the lot.

2/ Product not equal to or better than the approved preproduction sample in palatability and overall appearance shall be cause for rejection of the lot. (This comparison shall be performed only when deemed necessary by a USDA agent).

3/ For reconstitution instructions, see 5.4.1.

4.5.5 End item testing. The finished product shall be tested for fat, moisture, sodium chloride, copper or oxygen (when applicable, see footnotes 1/ and 2/ to 3.4.2), standard plate count, coliform count, and salmonellae requirements of 3.4.2, and for the phosphatase requirement of 3.4.2.1. Test procedures shall be as specified in 4.6. The lot size shall be expressed in units of primary containers. The samples for testing headspace oxygen shall be from the number of primary containers indicated by inspection level S-2. For the remainder of the tests, the sample for testing shall be an approximate 1 pound composite derived from the primary containers used for testing headspace oxygen. When headspace oxygen is not tested, the 1 pound composite sample shall be derived from the number of containers required by inspection level S-2. Results shall be reported as follows: Fat, moisture, sodium chloride, and headspace oxygen to the nearest 0.1 percent; standard plate and coliform counts in accordance with the Standard Methods for the Examination of Dairy Products; phosphatase as pass or fail; and copper to the nearest 0.1 ppm. The finding of any test as positive for salmonellae shall be considered a test failure. One or more test failure shall be classified as a major defect and shall be cause for rejection of the lot.

4.5.6 Can condition examination. Examination of filled and sealed cans shall be in accordance with the U.S. Standards for Condition of Food Containers, except that inspection for labeling shall be in accordance with MIL-L-1497 (see 5.4).

4.5.7 Can leakage examination. Cans shall be examined for leakage as specified in 4.6.3. The lot size shall be expressed in cans. The sample unit shall be one filled and sealed can. The inspection level shall be S-3 and the AQL, expressed in terms of defects per hundred units, shall be 0.65. A steady progression of bubbles shall be classified as a major defect.

4.5.8 Shipping container examination. When shipping containers shall be examined for defects in assembly, closure and reinforcement (when applicable) in accordance with PPP-B-636. In addition, the following defects shall be classified as follows:

Major: National stock number, item description, contract number, or date of pack markings missing, incorrect, or illegible.
Reinforced with other than nonmetallic strapping or tape.

Minor: Other required markings missing, incorrect, or illegible.
Arrangement or number of cans not as specified.
Container not snug-fitting.

Level C shipping containers shall be examined only for the markings, arrangement, and number of cans defects specified above and for the closure method specified in 5.2.3.

4.5.9 Unit load inspection. Inspection of unit loads shall be in

accordance with the quality assurance provisions of MIL-L-35078.

4.6 Methods of inspection.

4.6.1 Chemical analyses. Chemical analyses shall be made in accordance with the following methods from Official Methods of Analysis of the Association of Official Analytical Chemists, Chapter: Dairy Products, section: Cheese, except as indicated below:

Test	Method
Milkfat	~~Fat~~933.05
Moisture	~~Moisture (Method I)~~926.08
Sodium chloride	~~Salt in Cheese~~935.43, or 983.14
Copper ~~1/~~	~~Copper (Atomic Absorption)~~999.11, or 2011.14
Phosphatase ~~3/~~1/	~~Scharer Rapid Method~~946.03, or 978.14

~~1/ The cheese sample shall be ashed using procedure in Official Methods of Analysis, AOAC, Section 16.267 and copper analysis shall be determined using the procedure described in the Official Methods of Analysis, AOAC, Section 2.126 through 2.130.~~

~~3/~~1/ Standard Methods for the Examination of Dairy Products~~, Chapter: Phosphatase Methods to Determine Pasteurization.~~ (17th Ed, 2004).

4.6.2 Microbiological analyses. Microbiological analyses shall be made in accordance with the following methods published in Standard Methods for the Examination of Dairy Products, Chapter 6: Microbiological Count Methods Section 6.2, Standard Plate Count; Chapter 8, Coliform Bacteria, Section 8.8, Coliform Test with a Solid Medium; and Chapter 10, Microbiological Methods for Dairy Products, Section 10.6, Cheese and Other Cultured Products, paragraph on Procedure for cheese other than cottage cheese, except as indicated.

Test	Method
Standard plate count	~~Agar plate~~990.12, or 966.23
Coliform count	~~Coliform group (using violet red bile agar)~~991.14, or 989.11
Salmonellae	~~1/~~ 967.26, 967.28, 2003.09, 2004.03, or 2011.03

~~1/ U.S. Department of Human Services, Bacteriological Analytical Manual, Dried Milk Section.~~

4.6.3 Leakage examination procedure. The filled and sealed can shall be examined for leakage by submerging the cans in water contained in a desiccator or other suitable container and maintaining a vacuum of 10 inches of mercury (atmospheric pressure 29.9 inches) for at least 30 seconds. A leak is indicated by a steady progression of bubbles. Isolated bubbles caused by entrapped air are not considered signs of leaks.

4.6.4 Oxygen in headspace gas testing. The determination of the oxygen content in the headspace gas shall be by using an electronic oxygen analyzer which operates on the principle of the difference in partial pressure of oxygen between the oxygen reference and the oxygen content of the sample as detected by a porous ceramic Zirconia sensor, such as the Illinois Instruments Analyzer or its equivalent; or on the principle of paramagnetic

Comment [RDNS-CFF2]: ES13-040 (DSCP-SS-13-01014) 27 Sep 13, p. 9, 4.6.1 Chemical analyses. Delete “Fat” insert AOAC “933.05”.

Comment [RDNS-CFF3]: ES13-040 (DSCP-SS-13-01014) 27 Sep 13, p. 9, 4.6.1 Chemical analyses. Delete “Moisture (Method I)” insert AOAC “926.08”.

Comment [RDNS-CFF4]: ES13-040 (DSCP-SS-13-01014) 27 Sep 13, p. 9, 4.6.1 Chemical analyses. Delete “Salt in Cheese” insert AOAC “935.43, or 983.14”.

Comment [RDNS-CFF5]: ES13-040 (DSCP-SS-13-01014x) 27 Sep 13, p. 9, 4.6.1 Chemical analyses. After “Copper” delete reference to footnote “1/”.

Comment [RDNS-CFF6]: ES13-040 (DSCP-SS-13-01014) 27 Sep 13, p. 9, 4.6.1 Chemical analyses. Delete “Copper (Atomic Absorption)” insert AOAC “999.11, or 2011.14”.

Comment [RDNS-CFF7]: ES13-040 (DSCP-SS-13-01014) 27 Sep 13, p. 9, 4.6.1 Chemical analyses. After “Phosphatase” delete reference to footnote “3/” and insert reference to footnote “1/”.

Comment [RDNS-CFF8]: ES13-040 (DSCP-SS-13-01014) 27 Sep 13, p. 9, 4.6.1 Chemical analyses. Delete “Scharer Rapid Method” insert AOAC “946.03, or 978.14”.

Comment [RDNS-CFF9]: ES13-040 (DSCP-SS-13-01014) 27 Sep 13, p. 9, 4.6.1 Chemical analyses. Delete footnote “1/ The cheese sample shall be ashed using procedure in Official Methods of Analysis, AOAC, Section 16.267 and copper analysis shall be determined using the procedure described in the Official Methods of Analysis, AOAC, Section 2.126 through 2.130.”

Comment [RDNS-CFF10]: ES13-040 (DSCP-SS-13-01014) 27 Sep 13, p. 9, 4.6.1 Chemical analyses. Delete footnote “3/” and insert footnote “1/”.

Comment [RDNS-CFF11]: ES13-040 (DSCP-SS-13-01014) 27 Sep 13, p. 9, 4.6.1 Chemical analyses. After “Standard Methods for the Examination of Dairy Products” delete “, Chapter: Phosphatase Methods to Determine Pasteurization.” and insert “(17th Ed, 2004).”

Comment [RDNS-CFF12]: ES13-040 (DSCP-SS-13-01014) 27 Sep 13, p. 9, 4.6.2 Microbiological analyses. Delete “Agar plate” insert AOAC “990.12, or 966.23”.

Comment [RDNS-CFF13]: ES13-040 (DSCP-SS-13-01014) 27 Sep 13, p. 9, 4.6.2 Microbiological analyses. Delete “Coliform group (using violet red bile agar)” insert AOAC “991.14, or 989.11”.

Comment [RDNS-CFF14]: ES13-040 (DSCP-SS-13-01014) 27 Sep 13, p. 9, 4.6.2 Microbiological analyses. Delete reference to footnote “1/” insert AOAC “967.26, 967.28, 2003.09, 2004.03, or ...

Comment [RDNS-CFF15]: ES13-040 (DSCP-SS-13-01014) 27 Sep 13, p. 10, 4.6.2 Microbiological analyses. Delete footnote “1/ U.S. Department of Human Services, Bacteriological ...

resonance such as the Servomex analyzer, or its equivalent. The oxygen analyzer shall be calibrated to a known standard prior to testing the headspace gas of the product.

5. PACKAGING

5.1 Preservation. The product shall be preserved in accordance with level A or C as specified (see 6.2).

5.1.1 Level A. A net weight of 3 pounds of the product shall be unit packed into a size 603 by 700 open-top style, round metal can, with soldered side seam and compound-lined, double-seamed ends. A minus one ounce tolerance will be allowed in any individual container, provided the average net weight of the cans, inspected in accordance with 4.5.3, is not less than the net weight specified above. The cans shall be made throughout from not less than commercial 0.25-pound per base box electrolytic tin plate and shall be coated outside with a coating conforming to type I of TT-C-495. At the option of the contractor, the product may be unit packed under an atmosphere of nitrogen so that the oxygen content of the gases in the filled and sealed containers shall not exceed the requirement specified in 3.4.2. Cans shall be hermetically sealed and shall not show leakage when tested in accordance with 4.5.7.

5.1.2 Level C. The product shall be preserved as specified in 5.1.1 except that the cans with or without commercial exterior coating will be acceptable. Alternatively, cans may be made from a 0.20 pound per base box electrolytic tin plate that is coated with a exterior commercial coating.

5.2 Packing. The product shall be packed in accordance with level A, B, or C as specified (see 6.2).

5.2.1 Level A packing. Six cans of the product, preserved as specified in 5.1, shall be packed in a fiberboard box, constructed and closed in accordance with style RSC, grade V2s or PPP-B-636. The cans shall be packed on end three in length, two in width, and one in depth, within a snug-fitting shipping container. Each shipping container shall be reinforced with nonmetallic strapping or pressure-sensitive adhesive filament-reinforced tape in accordance with the appendix of PPP-B-636. Shipping containers shall be arranged in unit loads in accordance with MIL-L-35078 for the type and class of load specified (see 6.2). When unit loads are strapped, strapping shall be limited to nonmetallic strapping, except for type II, class, class F loads.

5.2.2 Level B packing. Six cans of product, preserved as specified in 5.1, shall be packed as specified in 5.2.1, except the box shall be constructed of grade V3c, V3s, or V4s fiberboard.

5.2.3 Level C Packing. Six cans of product, preserved as specified in 5.1, shall be packed in a fiberboard box on end three in length, two in width, and one in depth within a snug-fitting container in accordance with the National Motor Freight Classification or Uniform Freight Classification, as applicable, except the closure of the fiberboard boxes shall be in accordance with Method II as specified in appendix of PPP-B-636.

5.3 Unit loading. When specified (see 6.2), the product, packed as specified in 5.2.2 or 5.2.3, shall be arranged in unit loads in accordance with MIL-L-35078 for the type and class of load specified. When unit loads

are strapped, strapping shall be limited to nonmetallic strapping except for type II, class F loads.

5.4 Labeling and marking.

5.4.1 Cans. Cans shall be labeled in accordance with MIL-L-1497, and as follows:

AMERICAN CHEESE

PROCESS, DEHYDRATED, SHARP

(Store in cool, dry area)

Directions for reconstitution

Dehydrated cheese	Water
1 pound (approximately 4 cups)	8 fl. oz. (1 cup)

Substitution ratio: For 1 pound of fresh process cheese, substitute 6 ounces of dehydrated cheese and rehydrate with 3 fluid ounces of water.

Place unused portion in a tightly covered container to prevent absorption of moisture, and refrigerate.

For specific guidelines and recipes, refer to Armed Forces Recipe Service cards and the Standard B Ration for the Armed Forces.

5.4.2 Shipping containers. In addition to any special marking required by the contract or purchase order, shipping containers shall be marked in accordance with MIL-STD-129.

5.4.3 Unit loads. Unit loads shall be marked in accordance with MIL-L-35078.

6. NOTES

(This section contains information of a general or explanatory nature that may be helpful, but is not mandatory.)

6.1 Intended use. The finished product has a number of versatile uses, particularly as a substitute for American process cheese. As such, after reconstitution with water in various proportions depending on the degree of consistency desired, it may be used as a cheese spread, in white or other sauces, gravies, soups, and salad dressing. Used as a component of white sauce, it makes an excellent cheese-flavored garnish for potatoes or other hot dishes. When the product is used as part of a recipe, there is no need for tedious grating or careful melting without burning, as is necessary when natural or process cheese is used.

6.2 Acquisition requirements. Acquisition documents must specify the following:

a. Title, number, and date of this specification.
b. Issue of DODISS to be cited in the solicitation, and if

required, the specific issue of individual documents referenced (see 2.1.1 and 2.2).

c. When a first article is required (see 3.1, 4.4, and 6.3).
d. Provisions for approved preproduction samples (see 3.5 and 6.3)
e. Levels of preservation and packing (see 5.1 and 5.2).
f. Type and class of unit load (see 5.2.1 and 5.3).
g. When weather-resistant grade fiberboard shipping containers are required for level B packing (see 5.2.2.1).

6.3 First article. When a first article is required, it shall be inspected and approved under the appropriate provisions of FAR 52.209. The first article should be a preproduction sample. The contracting officer should specify the appropriate type of first article and the number of units to be furnished. The contracting officer should also include specific instructions in acquisition documents regarding arrangements for selection, inspection, and approval of the first article.

6.4 Appropriate level of pack. Based on the conditions known or expected to be encountered during shipment, handling, and storage of the specific item being procured, the procuring activity should select the appropriate level of pack in accordance with the criteria established in AR 700-15/NAVSUPINST 4030.28/AFR 71-6/MCO 4030.33A/DLAR 4145.7.

6.5 Subject term (key word) listing.

Canned food
Spreads

6.6 Changes from previous issue. Marginal notations are not used in this revision to identify changes with respect to the previous issue due to the extensiveness of the changes.

Custodians:
Army – GL
Navy - SA
Air Force – 50

Preparing activity:
Army - GL
(Project 8910-0456)

Review activities:

Army – MD, QM
Navy – MC
DP - SS

For DLA Troop Support Website Posting

RDNS-CFF 27 September 2013

TO: DLA Troop Support – Subsistence DSCP-FTRE

SUBJECT: ES13-040 (DSCP-SS-13-01014); Specification update; MIL-C-35053D Cheese, American, Process, Dehydrated, Packaged in a No. 10 Can, Shelf Stable; Update analytical requirements for Phosphatase; Chemical analyses for Milkfat, Moisture, Sodium chloride, Copper, and Phospahtase; and Microbiological analyses for Standard plate count, Coliform count, and Salmonella

1. DLA completed a review of the testing requirements in subject document and found methods that are out of date, wrong, or allow for tests which cannot determine the applicable requirement. DLA submitted their findings to USDA for review. The USDA S&T laboratory has reviewed the chemical and microbiological analyses in subject document and concurs with DLA's recommended changes.

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

(1) p. 6, Paragraph 3.4.2.1, Phosphatase.
Line 3, after "per" delete "mL" insert "gram"

(2) p. 9, Paragraph 4.6.1, Chemical analyses.
Reference: Milkfat: delete "Fat," insert "933.05"

(3) p. 9, Paragraph 4.6.1, Chemical analyses.
Reference: Moisture: delete "Moisture (Method I)" insert "926.08"

(4) p. 9, Paragraph 4.6.1, Chemical analyses.
Reference: Sodium chloride: delete "Salt in Cheese" insert "935.43, or 983.14"

(5) p. 9, Paragraph 4.6.1, Chemical analyses.
Reference: Copper 1/: delete reference to footnote "1/"

(6) p. 9, Paragraph 4.6.1, Chemical analyses.
Reference: Copper: delete "Copper (Atomic Absorption" insert "999.11, or 2011.14"

(7) p. 9, Paragraph 4.6.1, Chemical analyses.
Reference: Phosphatase 3/: delete reference to footnote "3/" insert footnote "1/"

(8) p. 9, Paragraph 4.6.1, Chemical analyses.
Reference: Phosphatase: delete "Scharer Rapid Method" insert "946.03, or 978.14"

(9) p. 9, Paragraph 4.6.1, Chemical analyses.
Reference: Footnote 1/: delete entire footnote "1/ The cheese sample shall be ashed using procedure in Official Methods of Analysis, AOAC, Section 16.267 and copper analysis shall be determined using the procedure described in the Official Methods of Analysis, AOAC, Section 2.126 through 2.130."

(10) p. 9, Paragraph 4.6.1, Chemical analyses.
Reference: Footnote 3/: delete footnote“3/” insert footnote “1/”

(11) p. 9, Paragraph 4.6.1, Chemical analyses.
Reference: Inserted Footnote 1/: after “Standard Methods for the Examination of Dairy Products” delete “, Chapter: Phosphatase Methods to Determine Pasteurization.” and insert “(17th Ed, 2004).”

(12) p. 9, Paragraph 4.6.2, Microbiological analyses.
Reference: Standard plate count: delete “Agar plate” insert AOAC “990.12, or 966.23”

(13) p. 9, Paragraph 4.6.2, Microbiological analyses.
Reference: Coliform count: delete “Coliform group (using violet red bile agar)” insert AOAC “991.14, or 989.11”

(14) p. 9, Paragraph 4.6.2, Microbiological analyses.
Reference: Salmonellae: delete “reference to footnote “1/” insert AOAC “967.26, 967.28, 2003.09, 2004.03, or 2011.03”

(15) p. 10, Paragraph 4.6.2, Microbiological analyses.
Reference: Footnote 1/: delete entire footnote “1/ U.S. Department of Human Services, Bacteriological Analytical Manual, Dried Milk Section.”

3. Attached is Change 01, MIL-C-35053D Cheese, American, Process, Dehydrated, Packaged in a No. 10 Can, Shelf Stable dated 27 September 2013, with the changes highlighted